



ONTARIO - QUÉBEC CONTINENTAL GATEWAY AND TRADE CORRIDOR

**Developing
Competitive
and Sustainable
Transportation Policy
WORKSHOP**

MARCH 9-11, 2008

Lawrence National Centre for Policy and Management

Richard Ivey School of Business
The University of Western Ontario



CROSS-ENTERPRISE LEADERS



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MISSION

THE LAWRENCE NATIONAL CENTRE FOR POLICY AND MANAGEMENT

The Lawrence National Centre is committed to the development of sound public policy by providing a national forum for business, academia, and government to think globally, act strategically, and contribute to the societies in which they operate. The Centre creates dynamic networks that bridge business, academia, and government.

*"If we could really achieve
more cooperation between government and business,
we would see a quantum leap
in economic performance and productivity."*

JACK LAWRENCE

FOUNDER LAWRENCE NATIONAL CENTRE FOR POLICY AND MANAGEMENT

At the Lawrence National Centre we provide opportunities for our students to be involved in the study, development, implementation, and monitoring of public policy. The understanding and application of legislation, regulations, and government policy is imperative in the world of business. Many are interested in careers within government, as professional public servants, where they can serve their country within Canada and around the world.

An increasing number of students are attracted to cross-enterprise programs at the Lawrence National Centre. This workshop is a great opportunity for them to participate in this national forum of business leaders, government officials and academics, as they contribute to building a more competitive Canada, through lending their expertise and commitment to the development of timely and innovative public policy.

These are times of renewal, not just for the transport infrastructure system of roads, rail, marine and air, but in the way we interact in partnership with each other, with our governments, and with our future leaders - our students. We now have the opportunity to influence bold decisions!

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DIRECTOR'S MESSAGE

LAWRENCE NATIONAL CENTRE FOR POLICY AND MANAGEMENT

MESSAGE

I would like to extend, on behalf of Dean Carol Stephenson and the Lawrence National Centre for Policy and Management, a sincere thank you to everyone who contributed to the organization and success of the Ontario-Québec Continental Gateway and Trade Corridor Workshop on March 9-11th, 2008, at the Spencer Leadership Centre. An extraordinary assembly of more than 100 experts in business, government, academia, non-governmental organizations and students braved a formidable Canadian snowstorm in travelling to London, Ontario. Our objective is to increase our collective knowledge and to make recommendations on Gateway and Trade Corridor transport policy options and challenges facing our governments.

It is our honour and pleasure to host colleagues from the Governments of Canada, Ontario and Québec. Deputy Louis Ranger pointed out that "Once in a lifetime, during a career as a senior public servant does one witness great ideas. But if there is no political will, no resources... this time we have the conditions, the concept is well established, the political will, the budget, and a seven year commitment! Let's be strategic, we owe it to ourselves to think through where we want our transportation systems to be in 15-20 years, and to make investments wisely".¹ It is both hopeful and historical that all three governments are working together on the same transportation project for the first time!

We welcomed the opportunity to be part of this collaborative planning process and congratulate the governments on their priorities; seeking answers, engaging in smart planning, and recognizing that "the transportation sector's success story of partnerships between the private and public sector goes back to the very beginning of this great country."² As Jack Lawrence envisioned, we are hoping for that "quantum leap" in economic performance and productivity when government and business cooperate and work together.

As moderator of sessions and external advisor to our Steering Committee, Professor Jacques Roy, HEC Montréal, contributed extensively to the writing and editing of this report. He provided professional expertise, and timely and thoughtful advice throughout the entire planning of this Workshop. Thank you, Jacques, for your ongoing support and confidence throughout this most challenging, and rewarding, project. We have begun a great partnership between HEC and Ivey!



**Dianne
Cunningham**

Director
LAWRENCE NATIONAL
CENTRE FOR POLICY
AND MANAGEMENT



**Carol
Stephenson**

Dean
RICHARD IVEY
SCHOOL OF BUSINESS

BACKGROUND OF THE WORKSHOP

At the signing of the historical and timely Memorandum of Understanding on July 30th, 2007, the Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities, Canada, the Honourable Donna Cansfield, then Minister of Transportation, Ontario, and Ms. Julie Boulet, Québec Minister of Transportation announced the development of the Ontario-Québec Continental Gateway and Trade Corridor. As part of an action plan to "restore infrastructure in the country, efficient gateways and corridors will fuel economic growth, and boost Canada's competitiveness in global markets. Canada's prosperity and quality of life depends on our success as a trading nation."³

In planning the workshop, the Lawrence National Centre endeavoured to create a neutral forum where a wide range of experts could share their knowledge and perspectives on optimizing the connections between air, marine, road and rail transportation and to guide investment decisions on gateways and border crossings. To ensure that this initiative would lead to relevant and practical recommendations, the Steering Committee of representatives from government, business and academia undertook extensive consultations to identify the most pressing issues, and then carefully developed the workshop's discussion topics and questions.

¹ From Opening Remarks by Louis Ranger, Deputy Minister, Transport, Infrastructure and Communities.

² IBID

³ Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities. Press Release July 30, 2007. Governments of Canada, Ontario and Québec to Develop the Ontario-Québec Continental Gateway and Trade Corridor.

RESEARCH

The Lawrence National Centre and the Student Advisory Council members researched extensively the state of infrastructure in Canada.⁴

During the time of the 1950s - 1970s most of Canada's infrastructure was built, with a life span of 50-60 years. This puts Canada at a point where infrastructure, especially roads and bridges, require renewal and replacement.⁵ "A quarter of a century of underinvestment has left Canada's public infrastructure- which includes transit systems, roads, highways, bridges, water and water works, educational facilities and hospitals- at a weakened state."⁶

In order to move goods across Canada, North America and the world, a strong infrastructure is critical. "Trade and Transportation go hand in hand in creating our nation's wealth. You can have the best product in the world, but you will lose in the global marketplace if you cannot be assured it can get to customers quickly, reliably and at a low cost. In the 21st century, if you don't deliver on time, you won't deliver again."⁷

"Our infrastructure is not as efficient and secure as it needs to be. We need action because our national transportation network has neither the quality nor the capacity to ensure we can capitalize on the economic growth opportunities we see coming in the next five, ten, or twenty years."⁸

TRENDS

Given the environment that our participants are working in, whether researchers, business leaders, or government officials, the common thread that surfaced during the discussions was a sense of urgency and a call for action!

Many of our business leaders have been making the same recommendations for years, in calling for better data, and strategic research and development. Some are shippers who have been pressing for changes to the same regulatory barriers. "Hopeless, irrelevant, non-helpful regulation is what we are faced with."⁹

This workshop is one of many that are planned over the next few months. Some action must be taken now. It could be that specific regulatory challenges are considered for change or deletion and that over the short term even more practical advice and research could be provided. We are losing time as many businesses, manufacturers and producers are quietly disappearing; either through closures, mergers and acquisitions, or other examples provided in this report, where production is being moved to China, and warehousing and distribution centres are locating in the United States.

Participants considered new information and policy ideas for governments on urgent matters that need attention, including structural changes in the economy, competitiveness, multi-modal integration, border challenges, U.S.-Canada transportation systems integration, sustainable development, high-speed rail, the importance of regions, free trade agreements and zones, private sector involvement and human resource development.

Many of these challenges are being addressed in other forums, as well as in the media. We hope that some of the big ideas that evolved will be helpful to decision makers and government officials. We remain enthusiastic and prepared to be part of the solution. We respect that governments experience set backs in their aggressive work to find solutions. Minister of Industry, Jim Prentice, continues to work towards safe and efficient borders as businesses continue to ship duplicate orders and stockpile inventory in Canada and the U.S., making every effort to achieve on time delivery.

Panelists presented business challenges and research data on notable emerging trends in trade and freight patterns, impacts of low cost country sourcing, factors affecting location decisions, and value added services, where companies including the trucking industry are involved, in order to stay in business and survive.

⁴ Visit the Lawrence Centre website: www.lawrencecentre.ca to review research.

⁵ TD Bank Financial Group, May 2004, Mind the Gap: Finding the Money to Upgrade Canada's Aging Public Infrastructure.

⁶ IBID, p.1.

⁷ Perrin Beatty, President and CEO, Canadian Manufacturers and Exporters. Gearing Up for Global Growth: Why Canada Needs A National Logistics Strategy. The Chartered Institute of Logistics and Transport in North America. Sixth Transportation Situation and Outlook Conference, June 2007, Ottawa, Ontario.

⁸ Fred Green. President and CEO, Canadian Pacific Railway Company, Spring 2007. We need action. Canadian Business Leaders Speak (p. 19).

Les Chefs d'entreprise Canadiens s'expriment. Canadian Council of Chief Executives. Conseil Canadien des Chefs d'entreprise.

⁹ Direct quote from Hank Vander Laan, Founder and Senior Advisor, Trojan Technologies, Session #6, Panelist #5, p. 47.

Quotes in this report provide a sense of participants' passion, energy and expertise as they present ideas, options and recommendations. They share an optimism that solutions are achievable and a belief that there is a role for all Canadians to be educated on issues of North American competitiveness, trade, transportation and security in order to build a constituency for change among Canadians and Americans.

We look forward to presenting the workshop's findings, ideas and recommendations to political leaders and government policy makers. We recognize that this report is one link in a larger chain. It is up to governments to refine and implement policies.

The time for cautious, modest steps is over. Now we must embark in a visionary and bold path marked by clear, understandable and measurable milestones. We hope that this report is such a milestone, and that it helps advance government policy in facing the challenge presented by the development of efficient gateways and corridors that will fuel our economy, promote job growth, and ensure our success as one of the most successful trading nations in the world.

NEXT STEPS

We are aware that this workshop is part of an extensive consultative process across all sectors of society and especially involving all levels of government, including municipalities. We know that the federal and provincial governments are taking initiative to work together, and trust that the recommendations outlined in this report will assist them in taking the steps needed to move quickly beyond the planning process to implementation. Analyze the report and make a plan, with timeframes and deadlines for implementation. Monitor progress and results. This country must embrace the plan, set the pace and be at the front of the pack when it comes to infrastructure development, renewal and competitiveness. The timing couldn't be better!

- We must be nimble and agile and find ways (including establishing an agency) to coordinate policy across multiple departments and jurisdictions (transportation, finance, industry, environment, agriculture, immigration and others) within and outside Canada.
- To build a constituency for change, Canadians must be educated on issues of North American competitiveness, trade, transportation and security.
- Infrastructure development will require significant capital. If the public sector is to be successful at attracting support and resources from the private sector, a concrete, committed long term plan is needed, as well as a demonstrated track record of performance. Otherwise, private equity capital will seek out other partnerships!

**We extend our sincere appreciation to our major financial contributors,
Transport Canada,
the Ministry of Transportation, Ontario,
and the Ministère des Transports du Québec.**

**We are grateful for the ongoing support of
the Richard Ivey School of Business,
The University of Western Ontario,
and the City of London.**

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(Jacques Rochon, Directeur Exécutif, Politiques sur l'intégration du mouvement des marchandises et sur les transporteurs routiers, Transports Canada)

Patrick Gosselin *SENIOR POLICY ADVISOR* • Freight Integration and Motor Carrier Policy, Transport Canada
(Patrick Gosselin, Conseiller Principal, Politiques sur l'intégration du mouvement des marchandises et sur les transporteurs routiers, Transports Canada)

Rahel Merissa *ECONOMIC OFFICER* • Freight Integration and Motor Carrier Policy, Transport Canada
(Rahel Merissa, Agent Economique, Politiques sur l'intégration du mouvement des marchandises et sur les transporteurs routiers, Transports Canada)

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James Perttula *MANAGER* • Continental Gateway Office, Ministry of Transportation

Michael Casey *TEAM LEADER* • Continental Gateway Office, Ministry of Transportation

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Jean Couture *ASSISTANT DEPUTY MINISTER* • Policy and Security, Québec Ministry of Transportation
(Jean Couture, Sous-ministre adjoint, Ministère des Transports du Québec)

Bertrand Fournier *DIRECTOR OF PLANNING* • Québec Ministry of Transportation
(Bertrand Fournier, Directeur de la planification, Ministère des Transports du Québec)

Évangéline Lévesque *HEAD OF OFFICE* • Master Plan and Economy, Québec Ministry of Transportation
(Évangéline Lévesque, Chef du Service de l'économie et du plan directeur en transport, Ministère des Transports du Québec)

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STRUCTURAL CHANGES IN THE ECONOMY AND CENTRAL CANADA'S STRATEGY FOR THE FUTURE

OBJECTIVE:

THE PURPOSE OF THIS FIRST SESSION WAS TO PRESENT SOME OF THE STRUCTURAL CHANGES AND TRENDS AFFECTING WORLD TRADE AND, MORE PARTICULARLY, THE PATTERN OF GOODS MOVEMENT IN CANADA. THE PANEL FORMAT WAS STRUCTURED AROUND THREE CORE QUESTIONS:

QUESTION #1:

WHAT STRUCTURAL CHANGES WILL THE CENTRAL CANADIAN AND GLOBAL ECONOMIES UNDERGO IN THE NEXT 15 TO 20 YEARS (E.G. PERCENTAGE OF GOODS VS. SERVICES INDUSTRIES; REDUCTION OF MANUFACTURING BASE IN CANADA COMPARED TO LOW-COST COUNTRIES) AND HOW WILL THIS AFFECT TRADE NEEDS, INTENSITY AND TRANSPORTATION PATTERNS?

QUESTION #2:

HOW WILL THE EVOLUTION OF E-COMMERCE AND TECHNOLOGY AFFECT THE PATTERNS AND INTENSITY OF GOODS MOVEMENTS?

QUESTION #3:

WHAT ARE THE MOST RECENT TRENDS IN THE SUPPLY CHAIN INDUSTRY AS OBSERVED IN CANADA AND ABROAD AND HOW ARE THESE FACILITATING TRADE AND SECURITY?

Panelist #1: Patrick Leblond

Professor, International Business Department, HEC Montréal

20 YEARS OF FREE TRADE: HOW HAS IT AFFECTED CANADA'S TRADING PATTERNS?

There is no doubt that trade flows between Canada and the United States have greatly increased since the signing of CUSFTA in 1988. What is less clear is the impact that free trade has had on interprovincial trade flows. Some argue that it is now easier to trade with our southern neighbor than to trade among us because there is no free trade between Canadian provinces (as exemplified by the recent agreement between Alberta and British Columbia). This presentation sheds some light on the issue of Canada's evolving trade patterns by examining what happened during the recent past.

THE BIG PICTURE

The period that is sometimes referred to as the "roaring 1990s" has witnessed a real boom in North-South trade and the depreciated Canadian currency helped exports to the U.S. even further. North America became more integrated during this period as intra industry trade increased. As people say, notably about the automobile industry, "we make things together" in North America. The two economies were moving more in sync in the 1990s than they were during the 1980s, but, at the same time, Canadian productivity stagnated and imports to North America started to increase. On average, wealth increased in Canada and the U.S. but not in Mexico.

Since the early 2000s, "the party is over". Canada's trade with the U.S. is now flat in many sectors. In fact, the percentage of Canadian total trade with the U.S. has gone down, both in exports and in imports. The Canadian dollar is relatively high as a result of its economy being somewhat dependant on commodities such as oil and metals, but it is also up because the U.S. dollar is down. The borders are thickening with security concerns on the rise, as a result of 9/11 of course. Finally, since China became a member of the World Trade Organization (WTO), it has made it a lot easier and cheaper for Chinese goods to enter Canada and the U.S.

ONTARIO'S TRADE

In the 1990s, Ontario's exports to the U.S. increased significantly, but this growth ended in the 2000s. Since then, while U.S. growth is down, exports to Europe, Japan, Mexico and Latin America are growing faster. In the case of China, Ontario's exports were growing faster in the 1990s than they were in the 2000s. Ontario is very dependent on the automotive and

The whole success of the entire initiative is really dependent on a prosperous Ontario-Québec corridor. If we do not have prosperous communities within this Corridor then we will not be able to sustain it or maintain it.

GERALD SLEMKO

Some argue that it is now easier to trade with our southern neighbor than to trade among us because there is no free trade between Canadian provinces (as exemplified by the recent agreement between Alberta and British Columbia).

PATRICK LEBLOND

Since the early 2000s, "the party is over". Canada's trade with the U.S. is now flat in many sectors.

PATRICK LEBLOND

The borders are thickening with security concerns on the rise as a result of 9/11.

PATRICK LEBLOND

SESSION ONE

transportation equipment sector; 40% of its exports to the U.S. are in this sector. But since 2003, the growth in this sector has been negative, while in most other cases if growth is not negative it is substantially smaller than it used to be. This largely explains why trade with the U.S. has been down.

Looking at imports, we observe the same story: a great boom in the 1990s after free trade, and then stagnation since about 2000. Again, this shows the extent to which the two economies are linked together. In many industries, things are being made together in Canada and in the U.S. So, if you produce less overall, then of course both exports and imports will decrease. For example, since Ontario is very dependent on the transportation equipment industry for exports, it is also the same in terms of imports. Again, the fact that cars are being made together, parts just move back and forth across the border.

Ontario imports from China are shown in Figure 1. Most of the imports coming from China (i.e. 36%) are in the computer and the electronics industry. This is mainly because computers that were coming from other Asian countries before, whether it was Taiwan, Japan or Korea, are now mainly assembled in China. In fact, we are observing a “reorientation” of imports from China. These are not really new imports; it’s just that the Chinese are doing the final assembly of computers because it is much cheaper this way. The Japanese, Taiwanese, Koreans and Americans are still contributing much of the value added.

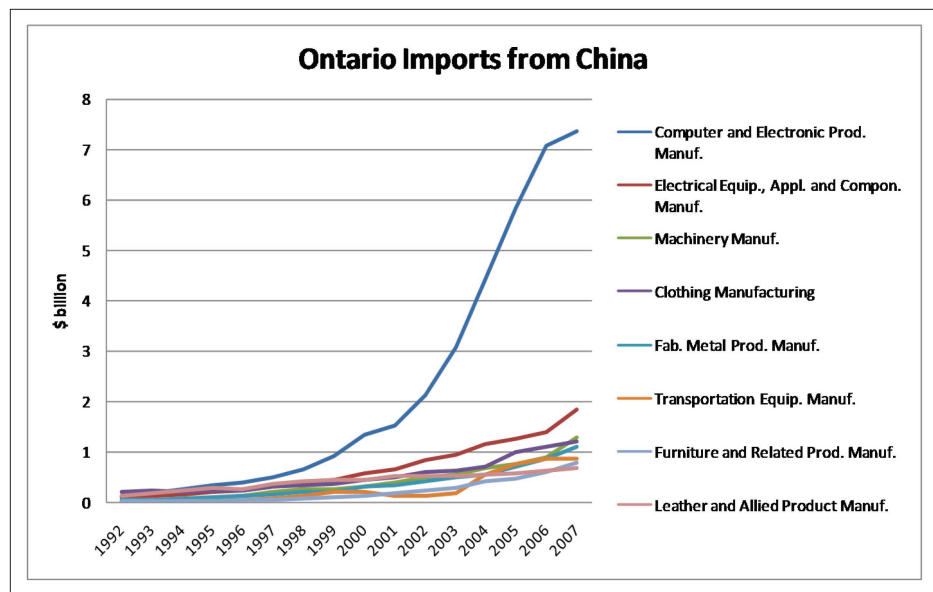


FIGURE 1

QUÉBEC'S TRADE

The situation is pretty similar in Québec; exports to the U.S. are declining in the 2000s after a booming period in the 1990s. Québec trades much more with Europe than Ontario does, although the U.S. is still the main partner. New York is Québec’s number one client in the U.S. although Texas is also important. Trade with Michigan is negative in recent years, although it was quite important in the 1990s when Québec was much more active in the automotive sector. They used to make cars in Québec, but they don’t anymore. In terms of export products, primary metals are still doing well in the 2000s but paper products are experiencing negative growth, as well as computers and electronics.

Imports from Europe have been increasing rapidly as illustrated in Figure 2. This explains why Québec is at the forefront of trying to negotiate a kind of trade agreement with the European Union. European trade for Québec is much more important than it is with other parts of the country. But imports have grown from other parts of the world as well, namely China and Latin America. Imports from the Western U.S. (Washington State, Texas) are growing. Clothing and textile imports from China are much more important in Québec than in Ontario. Computer and electronics imports from China are also important, but much less than in Ontario. Except for the textile industry in Québec, the impact of China has been much more dispersed in Québec than it has for Ontario.

The trade relationship and competitiveness is no longer East-West, it is North South. It is critical for policy makers at the regional and provincial level, on both sides of the border, to demonstrate leadership by meeting and beginning a discussion to ensure that North America remains competitive in a globalized world.

KATHRYN FRIEDMAN

Québec trades much more with Europe than Ontario does, although the U.S. is still the main partner. New York is Québec’s number one client in the U.S. although Texas is also important.

PATRICK LEBLOND

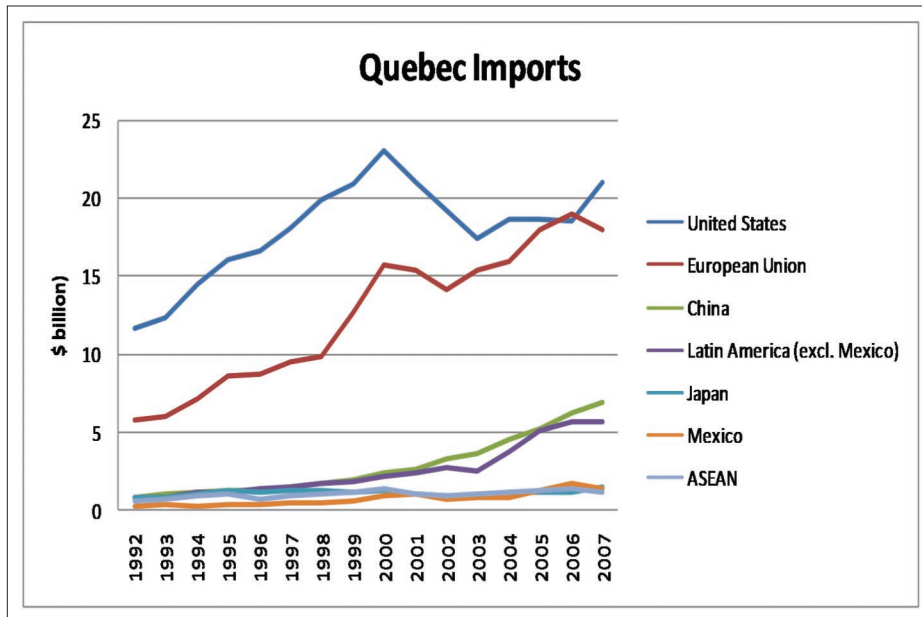


FIGURE 2

So yes, one can say the party is over, but things could be worse. Trade between Ontario and Québec has generally continued to grow and productivity has improved. Unemployment has continued to decline and that just shows that employment in the manufacturing sector is less and less important, about 15% of total employment. There has been solid growth in the service sector, and that is what the unemployment rate demonstrates. Finally, exports to other markets (Europe, China, Mexico, and Latin America) are increasing.

Now going back to the question of what structural changes are likely to occur in the future, things are likely to stay as they are: a declining manufacturing base and more exchange rate volatility. It is not clear that the dollar will remain high, more so, over a 20-year period. The U.S. will remain the main Canadian partner for exports and imports but will decline in importance if something is not done to improve border issues, infrastructure and especially regulatory harmonization.

Panelist #2: Brian Gerrior

National Manager Transportation and Customs, Sears Canada

HOW WILL THE EVOLUTION OF E-COMMERCE AND TECHNOLOGY AFFECT THE PATTERNS AND INTENSITY OF GOODS MOVEMENTS?

E-commerce opens new opportunities and challenges in the retail sector. For 2004-2007, Sears Canada’s internet sales grew 70% overall. Sears Canada is ranked as the #1 online general merchandiser and 9th overall online retailer in Canada as illustrated in Figure 3.

From an opportunity perspective, e-commerce knows no borders and knows no boundaries whatsoever. Access to inventories can serve customers anywhere in the world; it is limitless. Customers could potentially order online through us directly and have merchandise shipped directly to customers’ homes, from any location. After all, speed and efficiency are always in style in the retail industry. For example, a company in Germany is servicing Eastern Europe/Western Europe and Japan with garments. Everything must be perfect in these markets (especially Japan). A German company achieved \$20 billion in sales last year and is continuing to grow through e-commerce. Their ability to access new markets/economies and countries worldwide is made possible through this medium.

One can say the party is over, but things could be worse. Trade between Ontario and Québec has generally continued to grow and productivity has improved. Unemployment has continued to decline and that just shows that employment in the manufacturing sector is less and less important, about 15% of total employment.

PATRICK LEBLOND

The U.S will remain the main Canadian partner for exports and imports but will decline in importance if something is not done to improve border issues, infrastructure and especially regulatory harmonization.

PATRICK LEBLOND

After all, speed and efficiency are always in style in the retail industry.

BRIAN GERRIOR

SESSION ONE

E-commerce allows us to leverage through the internet against the bricks and mortar; centralizing inventories in one location rather than having several locations across the country.

BRIAN GERRIOR

What is the value of retailers - why can't consumers just go straight to manufacturers? What is the value added that Sears will be providing customers, to maintain a viable business?

RICHARD ZAVERGIU

I believe that the idea of the Big Box store may not necessarily survive because if you can go directly to manufacturing, then why do we need these huge facilities across Canada? However, there will always be a need for customers to talk to someone about their product, to return purchases etc. So we will need that dialogue with someone, we're not going to be able to have that with someone in China for sure.

BRIAN GERRIOR

We need better and faster modes of transportation in order to expedite our products to our customers. This would include (but not be limited to) better port and rail infrastructure, roads and border clearances.

BRIAN GERRIOR

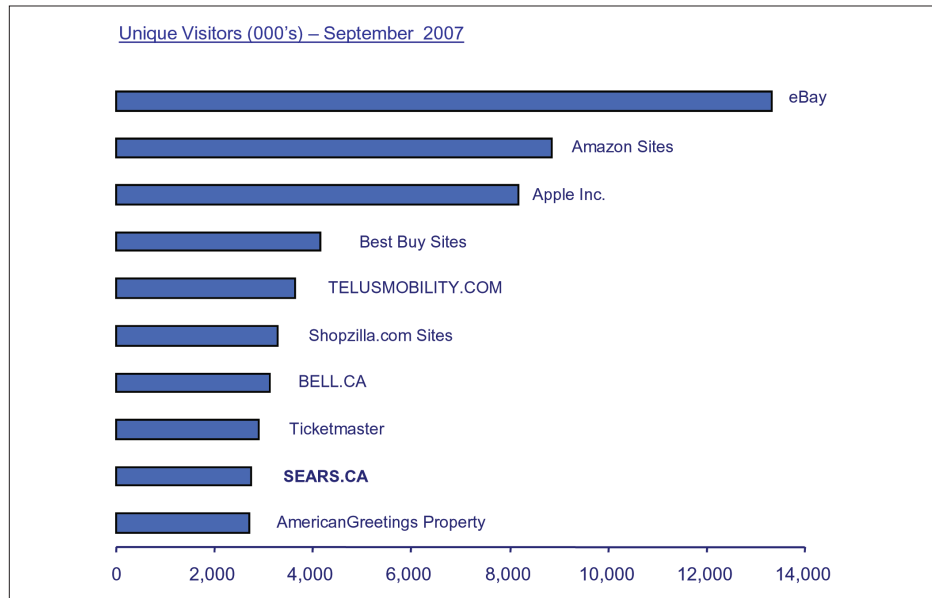


FIGURE 3

With Canada being a big country with a relatively small population, e-commerce permits even the most remote locations in Canada to shop one of the best product assortments available; that is good for the customer, good for business and good for Canada. In the remote locations in the North and in Newfoundland, the Sears Canada/Sears Catalogue/Sears e-commerce has become a shopping way of life for most consumers.

In retail, either you have too much or too little inventory, and probably not enough of the best sellers. Getting it just right is often more an art than a science. E-commerce allows us to leverage through the internet against the bricks and mortar; centralizing inventories in one location rather than having several locations across the country. This gives us a better in stock or out of stock position and better inventory turnover.

E-commerce also allows us to expedite small parcels directly to customers' homes, versus larger shipments to stores. It is interesting to note that today, 95% of direct orders get picked up at Sears locations. However, we see that model shifting in the future, with more emphasis on shipment directed to customers' homes.

What needs to be done to move forward, to enhance e-commerce and deal with delivery and logistics decisions? Infrastructure is very important to overall support of e-commerce. We need better and faster modes of transportation in order to expedite our products to our customers. This would include (but not be limited to) better port and rail infrastructure, roads and border clearances.

In addition, if the world is truly a global trading village under the WTO, we need to access more markets around the world in order to bring more products directly to our customers. Free Trade Agreements are essential in accessing markets for distributors and manufacturers worldwide. This is clearly an area the Federal Government has neglected for many years and we need to get this back on the agenda.

Finally, we must be conscious of the environment. Environmental issues that have not been considered or planned for have the potential to shut down any business. The e-commerce business will continue to create many smaller orders and we must think of ways and means of addressing all this packaging that is being circulated to customers' homes. We need to think about recycling containers that can be reused by customers or returned to us. We need to use less packaging and use less packaging materials. Also, we need to consider the carbon footprint that all this movement is generating and look at ways to seriously address these issues.

The world is changing, retail is reinventing itself; change is the essence of new business growth and we shouldn't be afraid of embracing change. We believe that e-commerce is a change and a new way for us to do business. We are embracing that change and looking forward to the new opportunities that will come our way.

Panelist #3: Robert Johnson

President and CEO, Purolator

WHERE BUSINESS IS GOING: INNOVATION AND TECHNOLOGY

Imagine trying to ship from a national distribution warehouse to 350 retailers across the country and have the confidence that it would get there the next day or in 2 days. It was almost impossible in the 1970s and 1980s, and was very difficult in the 1990s because the technology to support that was simply not available then. Today, with the type of shipping systems and technology we have, not only is it possible to do it easily, but large courier companies such as Purolator have shipping systems that provide full visibility of those shipments to the millions of locations they travel to.

Back in the mid 1990s, we started Purolator.com, our website, and that has evolved into a virtual customer service centre. All that you can do over the phone or at our call centre in Moncton or Montréal, you can do online. However, transportation costs remain substantial; you can imagine picking up a million pieces of products everyday and delivering it to 350,000 addresses every day. Technology has allowed us to become much more effective where our cost right now in 1990 dollars is about 40% of cost in 1990. We all have a better handle on our internal processing productivity, most of that being due to technology. Technology has allowed us, the courier industry, to be very cost effective.

As the global economy changes, manufacturing jobs are leaving Canada. That means less and less products are being picked up in Canada. These products continue to be consumed in Canada but they now originate globally and are brought into the country. As a result, Purolators' base business is changing in Canada and in fact, the whole distribution in Canada is changing dramatically. The courier industry is part of that change. This has led to greater port congestion; Vancouver ports are congested, Halifax is getting congested and the ports throughout North America are flooded.

Since we are the experts in getting products to customers on time, we have established warehousing facilities where containers directly from ships are routed and, through technology, we get the manifest on a real time basis, we label the products, sort them and deliver them directly to retailers and wholesalers, bypassing the major distribution centers. Technology has allowed us to play that role and it is growing in leaps and bounds, and it will continue to grow because the global economy will continue to go to low cost production areas.

The direct from port to the end seller/user is part of a real trend that is having an impact on distribution in Canada that is delivering directly to the retailer and bypassing distribution centers altogether. If I order a product from Sears and that particular order has 7 or 8 origins/manufacturers, distribution centers right now consolidate it all and deliver it as a single order. The Courier industry can use technology to merge in transit the 7-8 pieces from the 7-8 suppliers and deliver them on time to the customer. This will save shippers and consumers money.

At Purolator, technology is acting as a facilitator for addressing customers' increasing demands. I don't think we have even touched on what's going to happen in the future but I do know one thing: It's going to be technology driven!

Panelist #4: Philippe RicherAssistant Deputy Director
Service Industry and Consumer Product Branch, Industry Canada**LOW COST COUNTRY SOURCING: CANADIAN MANUFACTURING PERSPECTIVE¹**

Industry Canada has produced a report that identifies industry perspectives, issues and drivers pertaining to Low Cost Country Sourcing (LCCS) and supply chain agility, which enables policy makers to more effectively develop policies that respond to current and future industry needs. More than 400 industry contributors representing over 950 business locations participated in this research. The analysis includes provincial/regional, firm-size, and sector and supply chain specific representation.

¹ Much of this text is adapted or taken from <http://ic.gc.ca/logistics>

Free Trade Agreements are essential in accessing markets for distributors and manufacturers worldwide. This is clearly an area the Federal Government has neglected for many years and we need to get this back on the agenda.

BRIAN GERRIOR

When you get into the port of Vancouver, the problem is not the port so much as it is a problem with rail capacity. It is very difficult, in peak season, to offload from ship to rail, when bringing cargo into the port of Vancouver. There is just not enough rail-cargo capacity to handle the peaks and valleys that imports go through; therefore, some cargo will go into storage, be held and prioritized, and eventually go to rail. When you are trying to go ship to rail, that's when the bottleneck starts to occur.

BRIAN GERRIOR

Transportation costs remain substantial; you can imagine picking up a million pieces of products everyday and delivering it to 350,000 addresses every day. Technology has allowed us to become much more effective where our cost right now in 1990 dollars is about 40% of cost in 1990.

ROBERT JOHNSON

Technology has allowed us to play that role and it is growing in leaps and bounds, and it will continue to grow because the global economy will continue to go to low cost production areas.

ROBERT JOHNSON

SESSION ONE

Canadian manufacturing supply chain managers are now faced with the challenges of efficiently combining low cost, global sourcing and supply chain agility at the same time. LCCS is strategically important for 67 percent of Canadian manufacturers, and even more so in the automotive industry, as confirmed by close to 90 percent of respondents. The main drivers for LCCS implementation are based on competition pressures, gaining cost advantages and responding to customer demand.

China is the main location of LCCS of goods with more than 90 percent of Canadian manufacturers sourcing from that country. China is expected to maintain and increase its dominant position in this area, while India remains a major source of LCCS in the services functions.

The minimum lead time,² for products sourced from China is approximately 3 times that of products sourced from North America. More than 70 percent of manufacturers achieve on-time shipments of Canadian and U.S. products, but less than 10 percent of manufacturers achieve on-time shipments through LCCS.

A substantial percentage of manufacturers have indicated an increase in their lead time, inventory level, logistics cost, total landed cost (TLC) and a decrease in the quality of the goods since initiating LCCS, as shown in Figure 4.

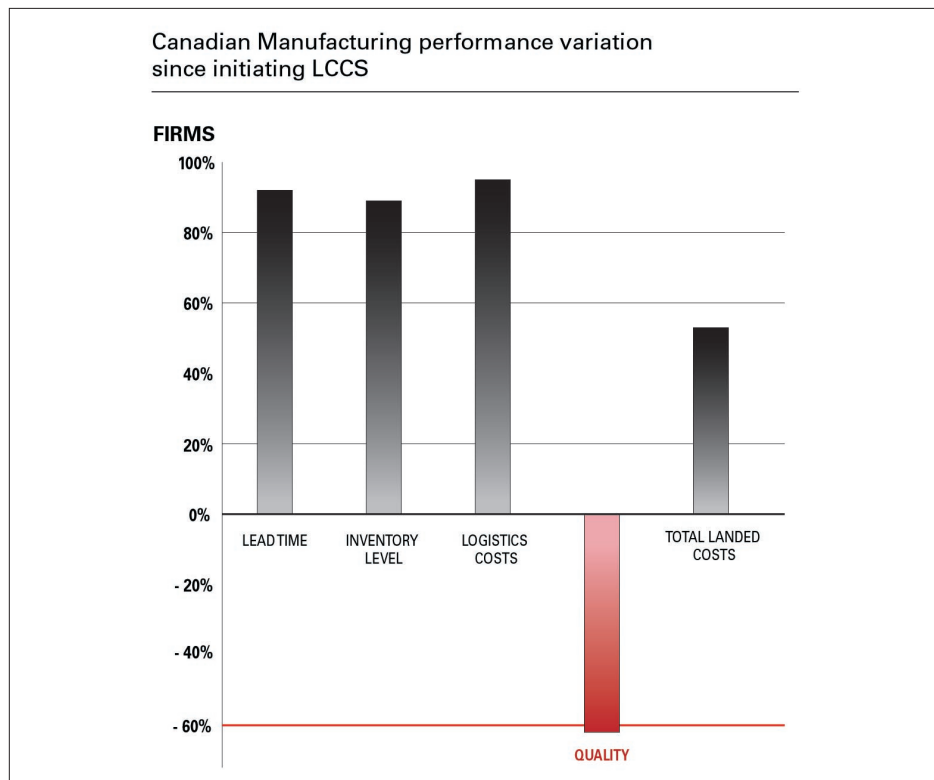


FIGURE 4

Of manufacturers who are able to achieve LCCS on-time shipments more than 75 percent of the time, 83 percent of them are engaged in planning, forecasting and demand planning with LCCS suppliers. Supply chain visibility and collaboration with LCCS suppliers are other best practices used to facilitate on-time shipments.

Best practices of manufacturers who decreased their TLC include establishing a secondary source(s) in less risky regions/countries, using air transportation mode and having dedicated resources/team(s) on global sourcing.

Finally, respondents to the survey indicate that they use alternate ports when importing products from low cost countries. Although these ports are predominantly located in Western Canada they also use East coast ports.

² Lead Time refers to the period of time between initiation of any process of production and completion of that process.

China is the main location of LCCS of goods with more than 90 percent of Canadian manufacturers sourcing from that country. China is expected to maintain and increase its dominant position in this area, while India remains a major source of LCCS in the services functions.

PHILIPPE RICHER

China manufacturers have become "in vogue" if you will. Now, what you are seeing in China is that prices are starting to go up. If you were in Shanghai lately, it's the New York of China/Asia- it's a booming, vibrant and beautiful city. Prices have continued to go up and we are starting to see things move from China- we're seeing manufacturers moving to Malaysia, Vietnam, India and Bangladesh.

BRIAN GERRIOR

Some of the reasons for the loss of manufacturing jobs is the increasing demand and economic environment that is slowing down- part of it is a higher dollar, but part of it is our productivity- another way of saying variable cost. It's a mixture and certainly that has to be addressed by manufacturing companies in Canada.

ROBERT JOHNSON

WHAT MAKES YOU COMPETITIVE?

OBJECTIVE:

THE PURPOSE OF THIS SECOND SESSION WAS TO IDENTIFY AND DISCUSS THE FACTORS THAT INFLUENCE THE LOCATION OF FIRMS IN CANADA AND THE ELEMENTS THAT CAN IMPROVE THE COMPETITIVENESS OF THE CONTINENTAL GATEWAY. THE PANEL WAS ASKED TO ADDRESS THE FOLLOWING QUESTIONS:

QUESTION #1:

HOW CAN WE ENSURE THAT WE WILL PROVIDE A *HIGHLY COMPETITIVE TRANSPORTATION SYSTEM* THAT NOT ONLY ENABLES THE MOVEMENT OF GOODS, BUT IS ALSO COMPETITIVE ENOUGH TO INFLUENCE THE *INVESTMENT AND LOCATION DECISIONS* OF INTERNATIONAL FIRMS IN FAVOUR OF CENTRAL CANADA?

QUESTION #2:

WHAT *OTHER* FACTORS ARE INFLUENCING OR CAN INFLUENCE THE DECISIONS OF FIRMS IN CENTRAL CANADA TO LOCATE OR NOT (E.G. LABOUR, QUALITY OF LIFE, ETC.)?

QUESTION #3:

WHAT OTHER VALUE-ADDED SERVICES CAN WE PROVIDE (E.G. REPACKAGING, MARKET-SPECIFIC TAILORING OF GOODS) THAT WOULD DIFFERENTIATE THE CONTINENTAL GATEWAY FROM OTHER NORTH AMERICAN GATEWAYS?

QUESTION #4:

A PAPERLESS BORDER? WILL *ELECTRONIC CLEARANCE SERVICES* EVER BE FEASIBLE, AS THE ONLY MEANS TO TRANSIT BORDER-PROCESSING POINTS AND REDUCE CONGESTION, AT BORDER POINTS?

Panelist #1: Saad Rafi

Partner, Deloitte & Touche

CLOSING THE INFRASTRUCTURE GAP – BENEFITS TO FOREIGN DIRECT INVESTMENT (FDI)

There has been an interesting growth in private capital. Private capital is looking for opportunities and the corridor can certainly benefit from that capital!

Some of the stated transportation infrastructure deficits by various governments are captured in Figure 1. One can argue about the numbers, as some numbers would involve assets or sectors beyond transportation, but my point is that by any calculation, by any assessment, these are significant numbers. There is no capacity to support this kind of infrastructure development through the existing sources of revenue from governments. There are some innovative responses to this, as some governments are doing and they can do successfully.

A weak infrastructure network has four areas of impact: competitiveness, productivity, traffic congestion (which has a similar impact on productivity) and creating potential safety problems.

So, how do you fill this gap? The amount of funds raised and available in private equity capital has grown dramatically over the last three or four years. Infrastructure funds are gaining a great deal of ground in the market place. Even mutual funds are moving towards infrastructure and there is a real indication here that the type of returns are of high calibre. The sponsoring organization or the seller if you will, are of a high calibre as well.

You are also competing against private equity infrastructure funds within Canada, North America, and, specifically, within Ontario and Québec for infrastructure development and investment support. The larger pension funds and other larger funds are looking for larger projects, but that means there are fewer projects in the market because of lead time.

The capacity of a nation to attract, build and sustain a stable economic foundation is, in large measure, influenced by the relative condition of the local, national and even international transportation infrastructure in which industries are embedded. This is particularly relevant in so far as the Canadian manufacturing sector in general... and its automotive industry more specifically... is concerned.

GREIG MORDUE

Recent history shows a goodwill and projects coming to market ... but you are right, I think we need to demonstrate a track record of performance, otherwise more direct capital or private equity capital will seek other partnerships.

SAAD RAFI

There is available capital trying to meet available need. My comment about a sense of urgency is to get these projects out into the marketplace but also recognize the limitations on that urgency. Some form of innovative financing ... I think that is the way of delivering infrastructure faster than we could otherwise do.

SAAD RAFI

SESSION TWO

There is no capacity to support this kind of infrastructure development through the existing sources of revenue from governments.

SAAD RAFI

There is terrific response from the government. Governments are responding by implementing partnership models to deliver infrastructure projects sooner, on time, and on budget. Partnership models alone are not a panacea.

Rather, they are one tool governments have at their disposal to clearly demonstrate they are competitive and ready for Foreign Direct Investment (FDI).

SAAD RAFI

Clearly, it is not optimal to spend so much money that transportation networks are little congested because businesses pay such high fees or taxes that they decide to locate production in other countries. On the other hand, little infrastructure means that Canadian customers and businesses will be severely restricted in what they can transport due to congestion, thereby discouraging their willingness to operate from Canada in the global supply chain. A balanced approach is required to ensure that net benefits from infrastructure spending are optimized.

JACK MINTZ

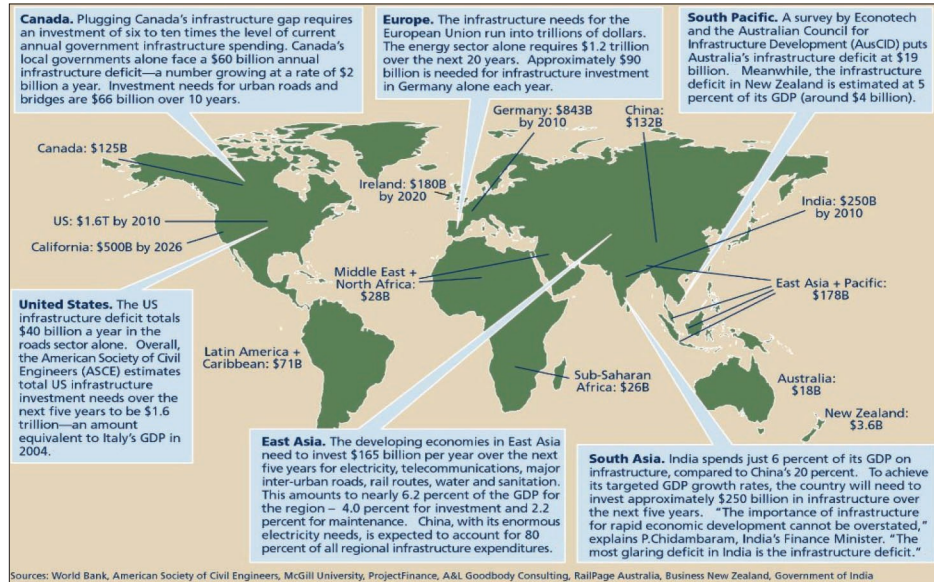


FIGURE 1 - INFRASTRUCTURE DEFICITS BY VARIOUS GOVERNMENTS

By any standard of measurement the numbers are staggering, but I think it is good news for Canada, the Corridor, Québec and Ontario. There is terrific response from the government. Governments are responding by implementing partnership models to deliver infrastructure projects sooner, on time, and on budget. Partnership models alone are not a panacea. Rather, they are one tool governments have at their disposal to clearly demonstrate they are competitive and ready for Foreign Direct Investment (FDI).

Panelist #2: Jacques Roy

Professor, Logistics and Operations Management, HEC Montréal

FACTORS AFFECTING LOCATION DECISIONS - A CASE STUDY

In theory, when deciding on the location of a new plant, a company will consider several factors that can be categorized as follows:

- Critical factors, i.e. those factors that are so important that they may eliminate a potential site if the factors are not met. For example, the availability of low cost energy is a critical factor for the location of an aluminium production facility.
- Quantitative (financial) factors, i.e. those factors that can be evaluated in financial terms and that include such elements as cost of labour, transportation, energy, land, facilities, taxes, etc.
- Qualitative factors, i.e. those criteria that can hardly be expressed in financial terms but are still relevant to the location decision. These factors may include:
 - *Quality of labour and of the transportation infrastructure;*
 - *Political, economical, social, technological, and environmental factors.*

If we look at the decision made by Bombardier Aerospace back in 2005 to locate their planned assembly plant for the CSeries aircraft in Montréal, the following factors were considered at the time:

- Critical factor:
 - *Bombardier required that the local government finance at least one third of development costs.*
- Site specific operational criteria:
 - *Labour availability and cost, quality of transportation infrastructure (including access to airport), quality of life, etc.*
- Other strategic criteria such as the impact on international trade agreements, labour concentration, government and union reaction, etc.

Table 1 shows the results of the analysis conducted in 2005. A quick glance at the numbers indicates that New Mexico was leading at the time, that is before the union decided to intervene and offer Bombardier concessions that amounted to close to \$60 million in annual savings. These concessions, plus the fact that the CEO at the time, Laurent Beaudoin, clearly expressed his preference for Montréal, have turned things around and the final decision favoured Montréal's Mirabel site.

But that was in 2005 when the Canadian dollar was valued at 80¢ U.S. The decision to launch the CSeries was postponed until early 2008 and now Bombardier's management is contemplating other potential sites, notably in the U.S. The reason is quite simple. With a Canadian dollar at par, labour costs would increase by an amount of \$60 million annually, i.e. equivalent to all labour union concessions made in 2005! With 2500 new jobs in the future assembly plant and another 2500 jobs with local suppliers, the decision is a tough one to make. But it demonstrates the importance of such factors as the currency exchange rate in locating new plants or adding capacity to existing ones.

Criteria	Missouri	New Mexico	Montreal	Toronto
Financial Criteria (Millions)				
• Development cost	+ 1	- 6	-	-
• Taxes	- 5	- 8	-	- 3
• Cost of labor	- 12	- 15	-	+ 2
• Other operating costs	+ 4	- 3	-	+ 4
• Project financing	+ 5	- 2	-	-
• Sales financing	+ 5	+ 5	-	- 5
Strategic Criteria (1 to 10)				
• International trade agreements	6	6	5	5
• Labor concentration	8	8	5	6
• Government/labor reaction	3	3	5	2

TABLE 1 - SITE ANALYSIS (COMPARED TO MONTRÉAL)

Note: The strategic criteria are evaluated with respect to Montréal, which is given an average score of 5 out of 10.

Panelist #3: Jean-Robert Lessard

Robert Transport, VP Marketing and Public Relations

VALUE-ADDED SERVICES: A COMPETITIVE TRUCKING INDUSTRY

Although Robert Transport is first and foremost a trucking company, we realized over the years that to maintain a competitive advantage, we had to add value to our trucking industry by adding: logistics services for our customers, international repackaging, and satellite tracking systems, as well as integrating green technologies.

First, we provide integrated logistics services. For example, in the food industry, we receive a schedule from our customers and from there we pick up their raw materials and take them to our distribution centres. From these distribution centres we check their schedule, and four hours before production, we deliver the product required for what they have to produce. We then take the finished product out of their plant and into our warehouse. As soon as we get the release from them, it is ready to go. Thus we act as a Third Party Logistics partner (3PL) by providing warehousing services and other related logistics services.

There is a very close relationship with our customers and we discovered that by providing this service, there was real added value. We have their orders, we have the ability to track their products at any time, and this is very important to the food industry. This is the type of added value service we can provide for the beer industry as well. We receive the bottles, cans and

With 2500 new jobs in the future assembly plant and another 2500 jobs with local suppliers, the decision is a tough one to make. But it demonstrates the importance of such factors as the currency exchange rate in locating new plants or adding capacity to existing ones.

JACQUES ROY

The North American automotive industry is collapsing as Japanese, Korean and other foreign auto manufacturers gain market share and Ontario is at a disadvantage because of the appreciation of the Canadian dollar and high labour rates. This has had a major negative impact on Ontario and the Ontario-Québec corridor.

GERALD SLEMKO

Planners should be mindful of international competitiveness. If major trading partners do not assess environmental charges (as priced into transportation services) Canadian businesses could be offside unless other policies are adopted to keep them competitive.

JACK MINTZ

SESSION TWO

*I was wondering about empty trucks
or near empty trucks.*

MICHAEL FENN

*Regarding empty trucks- dispatcher
planning systems are in use to fill up
trucks and make better use of drivers.*

*Empty miles and fuel is the real
name of the game.*

JEAN-ROBERT LESSARD

*Notwithstanding the data that was
presented this morning, the data
concerning the decline in trade and
trucking, the number of trucks that
cross the border- the Canada-U.S.
relationship is by far the largest
trading partnership in the world.*

KATHRYN FRIEDMAN

*Would currency be such a big issue if
we started to drive down some of that
transportation that represents as
much as 20-30% of the cost of
production, which then gets into cash
to cash cycles again, a measurement
of variable cost management.*

PHIL DICK

caps, and an hour ahead of production we deliver them to the plant - and at the other end we receive the final product for delivery. For us this service is very important. It is also a very special niche.

Another niche is repackaging products coming from Europe to Montréal by taking the containers to our distribution centres and unpacking them. It is also another way to survive the economic changes we are going through in the transportation industry.

IT support is another important dimension. We have a team working with our customers to help them track their shipments through satellite systems. These systems are also very useful for informing our customers about delays and any unforeseen events. For example, if there is a delay of three hours, even if it is at the borders, we cannot always get the products in on time. It is very important to inform customers of the situation as quickly as possible.

We have a great market. Within a distance of about 1600 km, we have a population of 180 million people. We are also associated with a new company called Albatrans, a worldwide company. This puts us in a better situation with our customers because we can now provide a fully integrated door to door service, instead of moving containers from the customer to the border or from the border to the customer.

We should consider the concept of a Free Trade Zone as in Rotterdam, the Netherlands. A Free Trade Zone can be classified as an area of a country where companies are exempt from certain trade barriers, tariffs and quotas. The purpose is to "remove obstacles to trade and permit the quick turnaround of ships and planes."³ Robert Transport does not require funds from the government, what we do need is to work with Ottawa in taking the next steps to assist in the development of this zone.

For many, when it comes to being competitive and greener, the trucking industry is the bad guy. We have developed a new type of trailer in order to reduce our fuel consumption. There is also a new engine that is more costly and requires more fuel, but on the other hand, it is much more environmentally friendly. The recent shift to large tires has assisted us in reducing our fuel cost. Thus, Ontario and Québec should support tire legislation to reduce fuel consumption.

We now use generators that reduce the use of engine power by 95%. Skirts on the side of our trailers further reduce fuel consumption by 5-6%, which is substantial when you have a fleet the size of Robert Transport.

Panelist #4: Jennifer Fox

Assistant Manager of Operations, Ontario Trucking Association

WILL ELECTRONIC CLEARANCE SERVICES EVER BE FEASIBLE AS THE ONLY MEANS TO TRANSIT BORDER-PROCESSING POINTS AND REDUCE CONGESTION AT BORDER POINTS?

If I was a commercial truck driver, and every minute detail related to my cross border experience was perfect, then the answer would be yes, a paperless border is possible. In fact, when everything is absolutely 100% perfect, we have that right now. But in order to fully appreciate how close and yet so far we are from electronic clearance as a means to reduce congestion, we must look at exactly what pieces need to be in place. More than a dozen newly introduced cross border programs have been introduced since 9/11. These programs are designed to increase security while expediting border crossings. While many Ontario carriers take full advantage of these programs, the border remains slow, frustrating and, "thick".

As a matter of fact, truck traffic has decreased for the third straight year in 2007. With 200,000 fewer trucks crossing the border in 2007 over 2006, and 200,000 fewer trucks in 2006 over 2005, border delay times have, at best, remained the same if not worse.

How come? Carriers have had to specialize in crossing the border, actively participating in the cross-border programs, such as C-TPAT and FAST for low risk status. Automated Commercial Environment electronic manifest (ACE e-manifest) mandates data transmission to Customs prior to a truck's arrival at the booth. And with the advent of the newly introduced Customs

³ Definition of Free Trade Zone from Britannica Concise Encyclopedia, 2007
[www.encyclopedia.com]

programs and the systems that these programs rely on, there is actually a greater potential that something could go wrong, information missing, or a communication disconnect along the way, ultimately leading to greater delays. The dollar is impacting Canadian manufacturers, a relatively new factor in border delays. But with each newly introduced cross border program in the U.S., there are similar cross border programs being developed in Canada, and these programs do not currently provide for mutual recognition.

With all this electronic data being exchanged and all the programs aimed towards reducing border delays while enhancing security, what does need to happen for a driver to experience electronic clearance as a means to be processed at the border expeditiously?

Pre-9/11, drivers would fill out their manifest prior to arriving at the customs booth and present it to the officer. With ACE e-manifest, a driver has to have a successful transmission of electronic data to Customs at least one hour prior to arrival at the primary booth. But not just manifest information, Customs must also receive shipment information, from both the carrier and the Customs Broker, and this information must match.

If the driver arrives at Customs and there was a problem with his e-manifest, he will be denied entry into the U.S., face a possible fine, and be returned to Canada to wait until the data is received.

So many variables in this process alone leave potential for error, that ACE e-manifest in and of itself, can sometimes be the sole reason a shipment is delayed.

Even if the driver's e-manifest is successful, any number of issues can result in secondary processing, related to the shipment.

If there are any omissions or errors on the commercial paperwork and the broker is unable to file entry, the driver may arrive with a successful e-manifest, but he then is required to wait in secondary processing until the broker is able to file entry.

There may be problems with the database updating his Commercial Driver's licence, or his Free and Secure Trade (FAST) card may be due to expire. Perhaps it's a meat shipment, batteries or soil and is therefore subject to permit, or requirements of another government department, be it FDA, AG Can or otherwise.

There is also a requirement to prove citizenship. Drivers with valid FAST cards may use this to declare citizenship when entering the U.S. Unfortunately, a lack of mutual recognition deems the FAST card as NOT acceptable proof of citizenship to enter Canada. So, immigration regulations also come into play as all persons, including drivers, are subject to the Western Hemisphere Travel Initiative (WHTI) and are required to provide proof of citizenship; verbal declarations are no longer accepted.

If the driver has a FAST card he may be able to take full advantage of an expeditious border crossing, in the FAST lane and FAST booth. But this is also dependant on the carrier who must be Customs-Trade Partnership Against Terrorism (C-TPAT)/ FAST approved. Every shipment on board the trailer must have come from C-TPAT approved shippers.

So, as long as:

- The e-manifest is submitted timely and successfully;
- The driver has a valid FAST card, and supporting documentation proving citizenship;
- The carrier is FAST approved;
- All shippers are C-TPAT approved;
- The goods are not subject to other government departments;
- And the shipment is not selected for random inspection;

... there is a good possibility that the driver may experience electronic clearance services as the means to transit border-processing points expeditiously and clear customs.

In Ontario, carriers continue to invest in border security programs, actively participate in open communication with U.S. and Canadian Customs, implement best practices for compliance and pursue open dialogue with Customs and Customs Brokers to improve transport efficiencies.

If the driver arrives at Customs and there was a problem with his e-manifest, he will be denied entry into the U.S., face a possible fine and be returned to Canada to wait until the data is received. Even if the e-manifest is successful, any number of issues can result in secondary processing, related to the shipment.

JENNIFER FOX

Simplify Customs processes between Mexico, USA and Canada; post-9/11 security measures have hampered trade and risk is becoming an unmanageable burden.

CATHERINE MONDOR

More than a dozen newly introduced cross border programs have been introduced since 9/11. These programs are designed to increase security while expediting border crossings. While many Ontario carriers take full advantage of these programs, the border remains slow, frustrating and, "thick".

JENNIFER FOX

SESSION TWO

Thanks to continued outreach and communication between trading partners there are an increasing number of importers/shippers participating in C-TPAT and Partnership in Protection (PIP). Shippers are starting to recognize the benefit to selecting FAST approved carriers. Carriers investing in cross border are reaping some rewards.

- FAST card meets WHTI requirements (Western Hemisphere Travel Initiative)
- FAST recognized for transport of DG (Dangerous Goods)
- FAST background check for TWIC (Transportation Worker Identification Card)
- ACE expedited border crossing (Automated Commercial Environment)

Continued outreach opportunities such as this forum and others, where shippers are encouraged to participate in C-TPAT, and trading partners can come together and communicate what needs to take place to take our already electronic border and bring it to where it needs to be, to truly improve the border crossing process for all, is most helpful.

In closing, I would like to point out two interesting pieces of information. Every Saturday evening between midnight and 5 a.m., U.S. Customs shut down ACE to system upgrades and maintenance. This may last half an hour; it may last the full five hours. During this time, also known as "down time", Drivers arriving at Customs primary booth must have paper on hand in order to be processed. On Wednesday, March 5th, 2008, Canada's Border Services Agency's (CBSA's) system experienced a nation wide glitch that lasted from 5:30 a.m. until approx. 11 a.m. During this 'down time' drivers were required to see the Customs Broker upon arriving at the border to obtain paper release.

So, even with all of our cross border programs and efforts to streamline systems, mutual recognition of one another as trading partners, and the introduction of electronic means to identify low risk drivers and goods, still, when all is said and done, if the systems are down, we are left to rely on paper.

But with each newly introduced cross border program in the US, there are similar cross border programs being developed in Canada, and these programs do not currently provide for mutual recognition.

JENNIFER FOX

So, even with all of our cross border programs and efforts to streamline systems, mutual recognition of one another as trading partner, and the introduction of electronic means to identify low risk drivers and goods, still, when all is said and done, if the systems are down, we are left to rely on paper.

JENNIFER FOX

MULTIMODAL INTEGRATION / U.S. - CANADA TRANSPORTATION SYSTEMS INTEGRATION

OBJECTIVE:

THE PURPOSE OF THIS THIRD SESSION WAS TO INVESTIGATE THE EFFICIENCY AND EFFECTIVENESS OF THE MULTIMODAL TRANSPORTATION SYSTEM IN THE ONTARIO-QUÉBEC CORRIDOR AND EXAMINE THE FACTORS THAT CAN AFFECT ITS INTEGRATION. THE PANEL WAS ASKED TO ADDRESS THE FOLLOWING QUESTIONS:

QUESTION #1:

HOW CAN WE PROVIDE THE BEST POSSIBLE *MULTIMODAL INTEGRATION* OF THE ONTARIO-QUÉBEC (AND MORE BROADLY SPEAKING CANADIAN) MULTIMODAL TRANSPORTATION SYSTEM WITHIN THE NORTH-AMERICAN TRANSPORTATION SYSTEM?

QUESTION #2:

HOW CAN SUCH A MULTIMODAL SYSTEM ENSURE THAT THE TRANSPORTATION OF INTERNATIONAL SHIPMENTS DESTINED TO THE NORTH AMERICAN MARKET IS MOST EFFICIENT AND SECURE *BY TRANSITING THROUGH CANADIAN GATEWAYS*?

QUESTION #3:

WILL *OUT-SOURCING OF MANUFACTURING TO LOW-COST COUNTRIES OUTSIDE NORTH AMERICA* AFFECT THE NORTH-SOUTH INTEGRATION OF THE NORTH AMERICAN ECONOMY?

QUESTION #4:

HOW CAN TECHNOLOGY AND INNOVATION AFFECT THE GATEWAY? HOW CAN *NEW COMMUNICATION AND INFORMATION TECHNOLOGY AND SERVICES* BE APPLIED TO STREAMLINE AND INCREASE THE RELIABILITY OF THE SUPPLY CHAIN?

Panelist #1: Stephen Blank

Co-Chair, North American Transportation Competitiveness Research Council¹

A DEEPLY INTEGRATED NORTH AMERICAN TRANSPORTATION SYSTEM

This presentation is centered on three points. The most important point is that we are not yet really speaking about a North American transportation system. Or, better put, there is a contradiction between the public discourse and government policy which continue to focus on national responses on one side and the reality of a deeply integrated North American system in many key sectors of the economy on the other.

North American national governments have been reluctant to acknowledge the reality of deep integration in many sectors of our economy. Discussions and planning on transportation infrastructure still tend to take place in national boxes.

Canada's National Policy Framework for Strategic Gateways and Trade Corridors explicitly recognizes the need for a continental approach. It underlines that an "integrated North American economy is the 'platform' for Canada's successful global engagement," and underlines that "Canada has a range of opportunities to connect North America with the world, by exploiting advantages in geography, transportation and commerce." The Framework continues: "...gateway and corridor strategies can leverage significant Canada-US trade flows as part of national strategies to position Canada to benefit from the emergence of new economic powers such as China and India... Maximizing the free flow of goods, services and capital with the US is a key priority for Canada. The National Policy Framework for Strategic Gateways and Trade Corridors and future gateway strategies provide new avenues to advance competitiveness in the North American context."

¹ Some of this text adapted from: Blank, S., Parson, G. and Villa, J.C. March 2008. *Freight Transportation Infrastructure Policies in Canada, Mexico and the U.S.: An Overview and Analysis*. Building North America: North American Transportation Competitiveness Research Council, Working Paper No. 5.

A capable, efficient, flexible, intermodal freight transportation system is directly related to the health and growth of a national economy.

GREIG MORDUE

While recognizing the need for a "continental approach," the National Policy Framework does not provide one. The Framework lacks a vision of an integrated continental freight transportation system, and does not focus sufficiently on congestion problems at border crossings and particularly on rail congestion in Chicago.

STEPHEN BLANK

North American national governments have been reluctant to acknowledge the reality of deep integration in many sectors of our economy. Discussions and planning on transportation infrastructure still tend to take place in national boxes.

STEPHEN BLANK

SESSION THREE

Washington's border management policies since 9-11 have challenged and begun to erode the efficient supply chain systems that developed in the 1980s and '90s.

STEPHEN BLANK

In particular, roles of trucks and railroads have to be much further defined. We cannot simply assume that modal balance between trucks and rail will not change in future years.

STEPHEN BLANK

Their profitability was difficult up until the turn of the present century after most of the integration and adaptation had settled. This situation is due to many factors such as limitation of capacity, high demand and increased rates. It would thus seem that our Railroads are in very good financial shape, lead by CN.

RICHARD BICKLEY

But while recognizing the need for a "continental approach" the National Policy Framework does not provide one. The Framework lacks a vision of an integrated continental freight transportation system and does not focus sufficiently on congestion problems at border crossings and particularly on rail congestion in Chicago.

The second point is the border. Washington's border management policies since 9-11 have challenged and begun to erode the efficient supply chain systems that developed in the 1980s and '90s. The key is to move security away from the border. Ottawa has pressed Washington on border management policies. But the Canadian federal government has neither offered a comprehensive North American security program - including a North American security perimeter - nor reached out to state/provincial and metro government leaders and to the business communities, to build a broad coalition to support this vision. Canada should do everything possible to ensure that Washington's sole response in case of another terror attack is not to close down borders and ports.

Thirdly, most efforts to discuss freight transportation infrastructure and transportation corridors are based on linear projections of increases in traffic volume. Many of these projections are suspect - particularly when carried out beyond a few years. This approach does not provide a solid foundation for future planning.

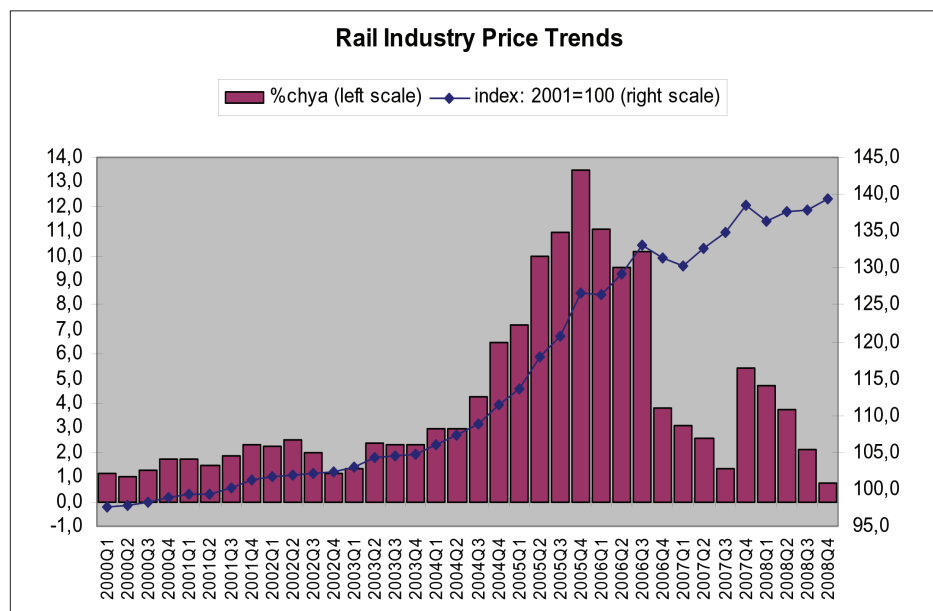
We need to think in terms of a multi-variable situation, factoring in, for example, the impact of fuel cost, stricter environmental regulations and potential changes in ownership of major transportation factors as well as more general issues of economic growth, global conflict and technological innovation. In particular, roles of trucks and railroads have to be much further defined. We cannot simply assume that modal balance between trucks and rail will not change in future years. What research has been undertaken on a North American freight transportation system has been one-off - carried out by a research group, on its own and with only modest reference to parallel work. We need to build a networked effort that ensures that research will be cumulative and sustained over successive cadres of researchers.

Panelist #2: Richard Bickley

Director, Transportation, Rio Tinto Alcan

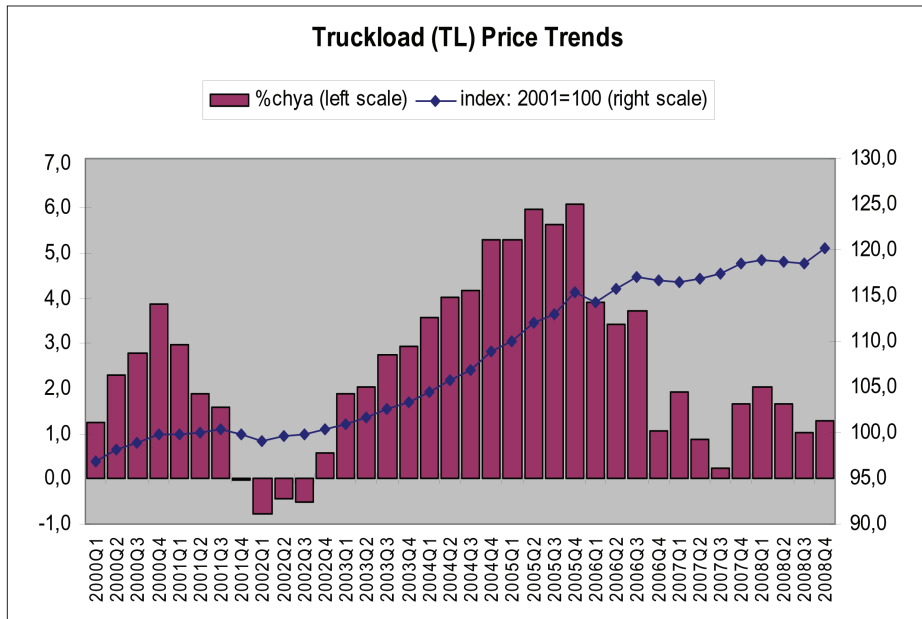
A SHIPPER'S PERSPECTIVE ON MULTIMODALITY

At Rio Tinto, multimodality applications are frequent and varied. For example, both trucks and trains are used to move metal to Oswego, N.Y. while barges are used to move the same metal from Sept-Iles to a facility in Trois-Rivières. Also, containers are used for import movements. As a shipper, transportation costs are obviously a concern. The following figures illustrate the growth experienced in the price of rail, truckload and marine transport in recent years.



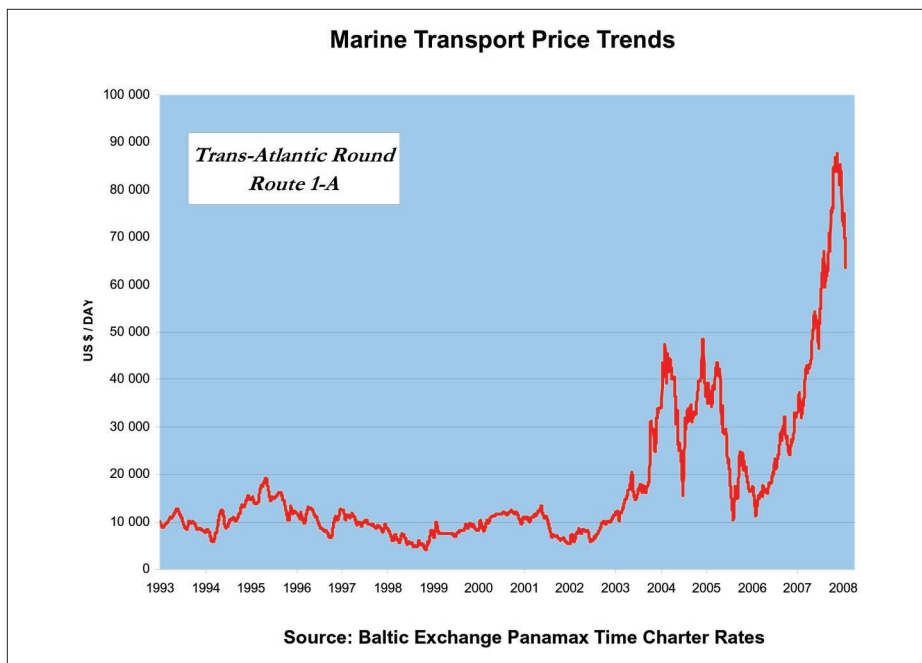
Source: Logistics Management Price Trend

FIGURE 1



Source: Logistics Management Price Trend

FIGURE 2



Source: Baltic Exchange Panamax Time Charter Rates

FIGURE 3

The last decades have also witnessed a consolidation movement in those transportation industries. The most evident is within the railroads, where six class 1 railroads listed in Table 1 are the result of the merger of 16 railroads since 1980. Their profitability was difficult up until the turn of the present century after most of the integration and adaptation had settled. As can be seen, in the same table, the operating ratios² have been improving since 2001. This situation is due to many factors such as limitation of capacity, high demand and increased rates. It would thus seem that our Railroads are in very good financial shape, lead by CN.

² Operating Ratio: Percentage representation of operating cost divided by the operating revenues. The lower the percentage, the higher the profit margin.

The top 10 carriers in 2001 owned 32% of the carriage capacity. In 2007, 6 years later, the top 10 trucking companies in Canada owned 42% of the total carriage capacity. In the province of Québec, of the top 25 truckers, the top trucker possessed more capacity than the sum of the other 24. For a shipper, this means that the competition in the trucking industry, as illustrated in the rail industry, is slowly diminishing.

RICHARD BICKLEY

Shippers, using marine modes in the Great Lakes, have to cope with harbour maintenance fees (collected by US customs). This is an added fee, which is not collected on land modes and it's a fee that is already captured by ports when a ship berths. This added fee only contributes in dissuading shippers of high value cargo to use marine modes to deliver cargo.

RICHARD BICKLEY

The lack of competitive resources to ship to Asia has forced freight rates to all time highs!

RICHARD BICKLEY

SESSION THREE

Shippers have to deal with an uneven playing field as to cabotage rules in the trucking industry. The American carriers can easily deliver and pick up in Canada for delivery in the US. But this is not the case for Canadian carriers.

RICHARD BICKLEY

We thought that the new Prince Rupert facilities would be the answer, however, regional businesses who needed direct truck access to the terminal did not benefit. Infrastructure was built to satisfy CN rail requirements.

RICHARD BICKLEY

CLASS ONE RAILROADS OPERATING RATIOS

	<u>2001</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
BNSF	81,5	84,3	76,7	75,8	77,3
CSX	89,9	86,5	80	78,9	76,4
NS	86,7	76	75,2	72,8	72,6
UP	82,9	89,4	86	81,5	79,0
CN	72,5	69	63,8	61,8	63,6
CP	83,4	81	78	75,4	75,3

TABLE 1

Similarly, "Today's Trucking", a Canadian trucking magazine, prints out a yearly report on Canada's top 100 truckers. In reviewing the data, and in observing the growth of bigger companies, we can note a similar rationalization of movement in this industry. As a matter of fact, the top 10 carriers in 2001 owned 32% of the carriage capacity.³ In 2007, 6 years later, the top 10 trucking companies in Canada owned 42% of the total carriage capacity. In the province of Québec, of the top 25 truckers, the top trucker possessed more capacity than the sum of the other 24. For a shipper, this means that the competition in the trucking industry, as illustrated in the rail industry, is slowly diminishing.

There are some concerns with respect to the efficiency of our multimodal transportation system. First, while the focus is on major nodes and arteries in the Ontario-Québec corridor, there is a real problem with the access to multimodal services in regions. Manufacturing facilities are still located, in many cases, in regions with limited effective access to multimodal hubs.⁴

Second, there is a lack of west coast access to international marine break bulk⁵ services. This is mainly due to the declining export markets of wood and pulp businesses going to Asia. This market has mainly been overtaken by South America. The lack of competitive resources to ship to Asia has forced freight rates to all time highs! They also forced shippers to new alternatives, such as containerising wood logs and aluminium long ingots. We thought that the new Prince Rupert facilities would be the answer, however, regional businesses who needed direct truck access to the terminal did not benefit. Infrastructure was built to satisfy CN rail requirements. Nothing has been provided for local access to the port, local P&D⁶ of containers, or manpower to open the gates.

Third, railroads are building structural capacity on intermodal services and CP is developing a new container yard in Les Cèdres. Normally, I would applaud investment, however, I am concerned. Les Cèdres is situated 40 km from Montréal. All containers are destined to the Montréal area, instead of having local P&D. This decision will require an added 80 km to pick up and deliver containers. I would say that this will not only increase the cost of P&D but also produce significantly more CO2 emissions. This is an example of ill-planned growth without taking into consideration all stakeholder needs and all aspects of growth. It could work if all containers move no farther than Les Cèdres, or if CP devises a way to distribute the Montréal destined containers via short rail or an alternative mode.

³ Carriage Capacity: number of power units capable of pulling a trailer.

⁴ Since these notes were presented, March 2008, CN has come out with a marketing strategy to provide multimodal services to some of the regions. See press release, Montréal, May 12, 2008 "CN offers new intermodal service between Eastern Québec, Ontario and Western Canada."

⁵ Marine Break Bulk: using a conventional ship that loads bundles, pallets, or pieces of merchandise that are loaded in a ship usually using ship or shore cranes.

⁶ P.&D.: Pick up and delivery.

Fourth, shippers, using marine modes in the Great Lakes, have to cope with harbour maintenance fees collected by US customs. This is an added fee, which is not collected on land modes and it's a fee that is already captured by ports when a ship berths. This added fee only contributes in dissuading shippers of high value cargo from using marine modes to deliver cargo. Again this is definitely not in sync with environmentally friendly strategies.

Finally, shippers have to deal with an uneven playing field as to cabotage⁷ rules in the trucking industry. The American carriers can easily deliver and pick up in Canada for delivery in the US. But this is not the case for Canadian carriers delivering in the US and trying to get freight backhaul into Canada.

Panelist #3: Jacques Roy

Professor, Logistics and Operations Management, HEC Montréal

THE IMPACT OF GLOBAL SOURCING ON SUPPLY CHAIN NETWORKS

As a result of global sourcing, companies are enjoying lower production or purchasing costs at the expense of additional transportation, warehousing and inventory holding costs. If total logistics and production (or purchasing) costs are lower as a result of off-shoring, companies will move ahead and outsource work to foreign countries. Although costs are important, there are other factors to consider in global sourcing. Cycle time, for example, will be much longer when outsourcing production to China instead of producing locally, in Ontario or Québec. As a result, additional inventories will have to be held locally to compensate for the added replenishment time and/or faster (and expensive) transportation modes will have to be used. Another factor associated with global sourcing is the increased risk of not receiving the product on time due to congestion at ports, capacity problems with foreign suppliers or quality problems. To alleviate these risks, more inventories will be held and added capacity will have to be built into the system. Consequently, a majority of companies have failed to reduce their total landed cost when sourcing from low-cost countries as indicated in the recent Industry Canada study.

Examples of Canadian companies that have recently outsourced work in low-cost countries are numerous. A major sportswear manufacturer was producing 75% of its sales in Canada in 2000. This percentage is now approximately 25% as a result of massive off-shoring to Asia and plant closures in Canada. But off-shoring is also affecting high tech industries such as the aerospace industry. For example, Pratt & Whitney has opened up a production facility in Poland and Bombardier Aerospace has outsourced production of electrical harness to its new facilities in Mexico in 2006.

The impact of global sourcing is twofold as can be observed in Canada. First, increasing purchases from low-cost countries has resulted in the construction of new distribution centers and the expansion of existing warehousing facilities in the last few years. In the Montréal area alone, recent examples are: Groupe Aldo (footwear), The Hockey Company, Alimentation Couche-Tard, RONA and Canadian Tire. This is a new phenomenon because in the early 1990s, there was a tendency to close distribution centers and replace them with cross-docking facilities in order to reduce the amount of inventories in the logistic system. But with the increased delays associated to sourcing from Asia, companies find it necessary to increase storage capacity.

Second, for companies outsourcing the production of finished products to low-cost countries, the impact is quite different. Indeed, if you outsource manufacturing to China and 80% of your market is in the U.S., where should you keep your inventories? Well, you will most likely come to the conclusion that they should move south of the Border. Several Canadian companies have recently decided to consolidate inventories in the U.S. (instead of Canada). This trend is very recent and is compounded by such factors as imports from Asia, border issues and a higher Canadian dollar.

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JACQUES ROY

⁷ Cabotage: it is illegal for Canadian carriers to deliver in the US and then pick up and deliver within US boundaries. They can only pick up if it comes back to Canada.

SESSION THREE

In a global economy, companies are looking for opportunities for growth by acquiring competitors or merging with other enterprises in their industrial sector. These mergers and acquisitions are taking place on an ongoing basis and are triggering the redesign of global supply chains. Indeed, mergers will often result in excess capacity in terms of production and warehousing facilities. Managers will have to decide which plants should be closed and which ones will have to be expanded in order to satisfy aggregate demand from merged companies. The same process will be applied to distribution centers and product flows will consequently be affected, which in turn will have a direct impact on transportation modes and infrastructures. As a general rule, mergers and acquisitions will lead to consolidation, which in turn will mean increased transportation needs.

To conclude, global sourcing is impacting the flow of goods in the Ontario-Québec corridor. The purchasing of goods from low-cost countries is increasing the need for additional warehousing capacity while the outsourcing of manufacturing of finished products sold in the U.S. is leading to the transfer of inventories south of the border. Actually, it can be observed that the center of gravity is moving South and West. The resulting logistics network reconfiguration will impact the Ontario- Québec gateway and trade corridor...It has already begun.

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JACQUES ROY

Panelist #4: Teodor G. Crainic

Professor, Université du Québec à Montréal and
CIRRELT - Laboratory on Intelligent Systems

TECHNOLOGY, INNOVATION AND THE ONTARIO-QUÉBEC CORRIDOR

"Intelligent Transportation Systems (ITS) encompass a broad range of wireless and wire-line communications-based information, control and electronics technologies including GPS[®]. When integrated into the transportation system infrastructure, and in vehicles themselves, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity, and save lives, time and money." (*ITS America'06*)

ITS technologies include the following:

- Vehicle & cargo tracking;
- Bi-directional communications (radio, wireless, satellite);
- Passive and active devices to monitor, collect, process, and send information on vehicle, crew, cargo status (transponders, Automatic Identification Systems, ...);
- Computing equipment & advanced models and methods for data processing/decision making in vehicles, within infrastructures, and at control/dispatch centres and firms;
- Electronic Data Interchange (EDI) and Internet.

The scope of ITS is very broad. Its components include:

- Traffic Management
 - *Advanced Traffic Management Systems (ATMS)*
- Travellers: people at home, in cars, public transport, commercial vehicles, ...; urban & interurban
 - *Advanced Traveller Information Systems (ATIS)*
- Public Transport
 - *Advanced Public Transportation Systems (APTS)*
- In-Vehicle - road Systems
 - *Advanced Vehicle Control Systems (AVCS)*
 - *Automated Highway Systems (AHS)*
- Freight
 - *Commercial Vehicle Operation (CVO)*
 - *Advanced Fleet Management Systems (AFMS)*
- Rural Transport Management
- Emergency Services
- Electronic Payment
 - *Electronic Toll Collection (ETC), smart cards and E-wallet*
- Safety and security

[®] GPS: Global Positioning Systems

In Canada, there are many ITS projects, including quite a few in Ontario and Québec. Many projects are directed toward cities (traffic management, traveller information, and public transport) but only a few at freight: U.S. borders, some highways are wired, etc. There are regular exchanges between provinces and between provinces and U.S. states in the North-East. However, there is not much integration yet and much more has been done on hardware than on software.

So far, E-business and ITS developments have been largely hardware-driven and have led to the introduction of many sophisticated technologies. We now have the capability to collect, transform, and transmit enormous amounts of data. But, is all data transformed into *useful information*? Is this information *properly exploited*? We are far from the full potential of technology although progress is being made!

With respect to the Ontario-Québec gateway project, the use of ITS technology could provide data on arriving containers by ship, enhance planning of port operations (including customs), facilitate the scheduling of priority containers to be moved out of port to customers, allow for tight scheduling of trucks in/out of ports and adjustment of rail operations and allow service guarantees to customers. Tight coordination of highway management, fleet management and scheduling at border crossings would thus be facilitated.

The Gateway project is a collaborative effort of provincial and federal governments and institutions, national and foreign carriers, private firms, etc. To be successful, data must flow between participants who must be “integrated”. Each participant must be able to transform this data into meaningful information and profitable decisions. The whole system must perform better than before as a result of this effort.

Information Technology is important but not enough. The following questions have to be addressed:

- What incentives are there for private participants?
- What is the role of public institutions?
- Who transparently, safely, and impartially manages the exchanged data?

There is a need for policy boldness, integration in policies and action plans, and for increased R&D efforts at all levels. As academics, we sometimes wonder if transportation is a strategic domain for Canada. Let us not forget that universities are a major source of independent brain power.

Panelist #5: Gordon McBean

Professor, Institute for Catastrophic Loss Reduction,
The University of Western Ontario, London

HOW USE OF INFORMATION SERVICES CAN OPTIMIZE ECONOMIC EFFICIENCY AND ENVIRONMENTAL QUALITY

Weather, climate, floods and other environmental events have major impacts on transportation systems. A modern, efficient and highly competitive transportation system needs information services that greatly reduce those impacts while minimizing its environmental footprint. Decisions impacting transportation systems are continuously being made on operations for the next hours to days and for investments over the next months to decades. These decisions need to be conditioned by the environment, be it snow storms or disasters (tornadoes) in the short term or global warming in the longer term. As the climate warms in the decades to come, there will be more hot, likely smoggy days, more intense precipitation events creating flash floods and the levels of the Great Lakes will lower, all impacting transportation systems. There is need to design our transportation systems accordingly, while moving towards a low carbon society. The value of information services have been demonstrated in, for example, aircraft operations. Weather-related hazards create more than 75% of the disasters around the world with impacts on consumers, suppliers and transportation systems. “Climate change will have significant impacts on transportation, affecting the way U.S. transportation professionals plan, design, construct, operate, and maintain infrastructure. Decisions taken today, particularly those related to the redesign and retrofitting of existing or the location and design of new transportation infrastructure, will affect how well the system adapts to climate change far into the future.”⁹

⁹ Potential Impacts of Climate Change on U.S. Transportation, Transportation Research Board, Special Report 290, US National Research Council, 2008.

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TEODOR CRAINIC

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TEODOR CRAINIC

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GORDON MCBEAN

SESSION THREE

Science-based information services can provide weather and climate information for now to decades ahead. These forecasts can be delivered using new communication technologies. While weather forecasts are a federal responsibility, smog, flood, and water level forecasts are, for example, provincial responsibilities. To be fully effective and efficient, these information systems must be coordinated through an integrated consortium of federal-provincial-municipal agencies. The private sector has a role to play and can also contribute using Public-Private Partnerships as shown in Figure 4. The U.S. National Research Council¹⁰ also made recommendations including: incorporating “climate change into their long-term capital improvement plans, facility designs, maintenance practices, operations, and emergency response plans”; “Federal and academic research programs should encourage the development and implementation of monitoring technologies that could provide advance warning of pending failures due to the effects of weather and climate extremes on major transportation facilities”; and that the U.S.-equivalent agencies of the Meteorological Service, Transport Canada, Geological Survey and others “should work together to institute a process for better communication among transportation professionals, climate scientists, and other relevant scientific disciplines, and establish a clearinghouse for transportation-relevant climate change information.”

Science-based information services can provide weather and climate information for now to decades ahead. These forecasts can be delivered using new communication technologies. While weather forecasts are a federal responsibility, smog, flood, and water level forecasts are, for example, provincial responsibilities. To be fully effective and efficient, these information systems must be coordinated through an integrated consortium of federal-provincial-municipal agencies.

GORDON MCBEAN

Federal and academic research programs should encourage the development and implementation of monitoring technologies that could provide advance warning of pending failures due to the effects of weather and climate extremes on major transportation facilities.

GORDON MCBEAN

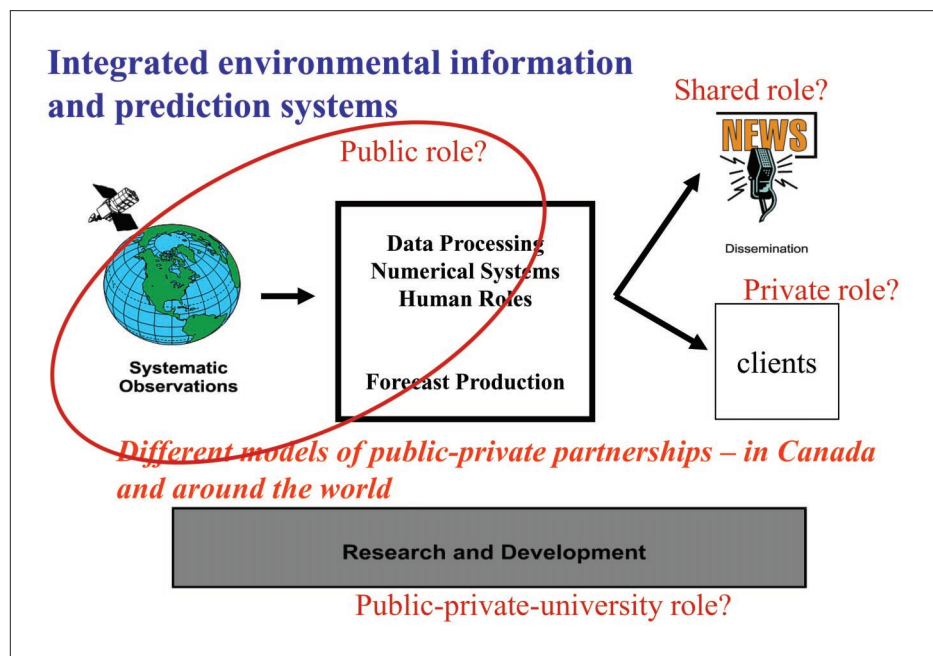


FIGURE 4

The implementation of such an integrated environmental information and prediction system would lead to, for example, reduced impacts of winter storms and summer smog days on operations, better adaptive investment strategies to a changing climate, more effective governmental regulation and improved population and environmental health.

The Institute for Catastrophic Loss Reduction - ICLR was created in the 1990s by the insurance community to address rising disaster losses. Its mission is to reduce loss of life and property caused by severe weather and earthquakes. It is a multi-disciplinary research and education organization that provides an essential foundation for effective action.

¹⁰ IBID

SUSTAINABLE DEVELOPMENT IN THE TRANSPORTATION SECTOR

OBJECTIVE:

THE PURPOSE OF THIS SESSION WAS TO ASSESS OPPORTUNITIES FOR GREEN SOLUTIONS REGARDING TRANSPORTATION SYSTEMS AND THE ONTARIO-QUÉBEC GATEWAY. THE PANEL FORMAT WAS STRUCTURED AROUND THREE CORE QUESTIONS:

QUESTION #1:

WHAT GREEN SOLUTIONS CAN ENABLE BOTH SUSTAINABLE DEVELOPMENT AND THE OPTIMIZATION OF THE TRANSPORTATION SYSTEM?

QUESTION #2:

WHAT CAN BE DONE TO ADDRESS SIGNIFICANT ENVIRONMENTAL ISSUES IN KEY MULTIMODAL OR TRADE HUBS LOCATED IN HIGH DENSITY URBAN AREAS? HOW CAN WE ENSURE THAT FUTURE GROWTH OF THE TRADE AND TRANSPORTATION SYSTEMS ARE MORE SUSTAINABLE AND MINIMIZE THE ENVIRONMENTAL FOOTPRINT, WHILE RESPONDING TO THE NEED FOR GREATER CAPACITY?

QUESTION #3:

WHAT ARE CANADIAN CITIES DOING TO ATTRACT NEW INVESTMENTS AND RETOOL THEMSELVES FOR THE 21ST CENTURY?

Panelist #1: Claude Comtois

Professor, Department of Geography, Université de Montréal
(Delivered by Teodor G. Crainic, Professor, Université du Québec à Montréal and CIRRLT - Laboratory on Intelligent Systems)

GREEN SOLUTIONS TO TRANSPORTATION BASED GATEWAYS AND CORRIDORS

INTRODUCTION

Transportation based trade gateways and corridors are considered a prerequisite to participate in the increasingly exchange-based world economy. For instance, the world containerized ocean traffic has steadily increased from 2000 to 2010; the same can be said for world bulk trade. The volume of freight necessary for world economic activity, which is carried by maritime transport, is now standing above 7 billion tons per year; nearly 60% of that volume is bulk commodities. The growth in the amount of dry and liquid bulk carried by sea and the mutation in the direction of flows, notably towards Asia, are some of the major phenomenon of world exchanges. Traffic of international air freight cargo has also increased significantly from 2004 - 2007. It is interesting to note that air freight is first and foremost international traffic; however, 80% of freight transport is undertaken on board passenger planes.

This spike in world traffic and trade explains the focus on transportation infrastructure, such as gateways. Governments are investing funds into various initiatives to modernize railway links, ports, trade corridors and gateways. They have introduced legislation to develop the Pacific Gateway Council in Vancouver, due to the growth in Asia Pacific maritime trade, invested in modernizing the Hudson Bay railway links and the port of Churchill, and are strengthening the Saint-Lawrence system as a multimodal transportation based corridor.

Traditionally, gateways are understood as nodes providing access or transport services to places for the flow of goods, people and information. Fully-fledged gateways cannot avoid intermodalism. This function rests on the most important markets, those that generate the highest revenue and offer the greatest potential for growth. Gateways become intelligible as multilayered hubs and multilayered links. The competitiveness of them depends on the synergies created between the different modes of transport; concentration is at the heart of gateways.

The concentration of multilayered hubs means that seaports are in need of expansion to handle the increasing capacity of cargo/containers. Thus, expanding sea-ports hosting new container terminals with capacity for the handling and transshipment of goods are representing the archetypical modern growth machine.

Transportation based trade gateways and corridors are considered a prerequisite to participate in the increasingly exchange-based world economy. For instance, the world containerized ocean traffic has steadily increased from 2000 to 2010; the same can be said for world bulk trade.

CLAUDE COMTOIS

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CLAUDE COMTOIS

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CLAUDE COMTOIS

SESSION FOUR

The ideal gateway then, is that which provides immediate transfer of everything, towards any mode, in all directions at market price, where distance delay would be negligible; no technology would ever allow for this.

CLAUDE COMTOIS

Multiple regulatory frameworks on polluting emissions reductions are a certainty. The emerging outlook is emissions control areas addressing climate change, water, air, soil, noise, biodiversity and land take issues.

CLAUDE COMTOIS

While environmental regulations are needed by governments on the one hand, there must also be a market approach to gateway sustainability.

For instance, international legislation suggests that the environment has become a factor of changes in terms of obligations, responsibilities and competitiveness. Subsequently, the

practice of sustainability and sustainable development has become integrated in the traditional economic logic of enterprise.

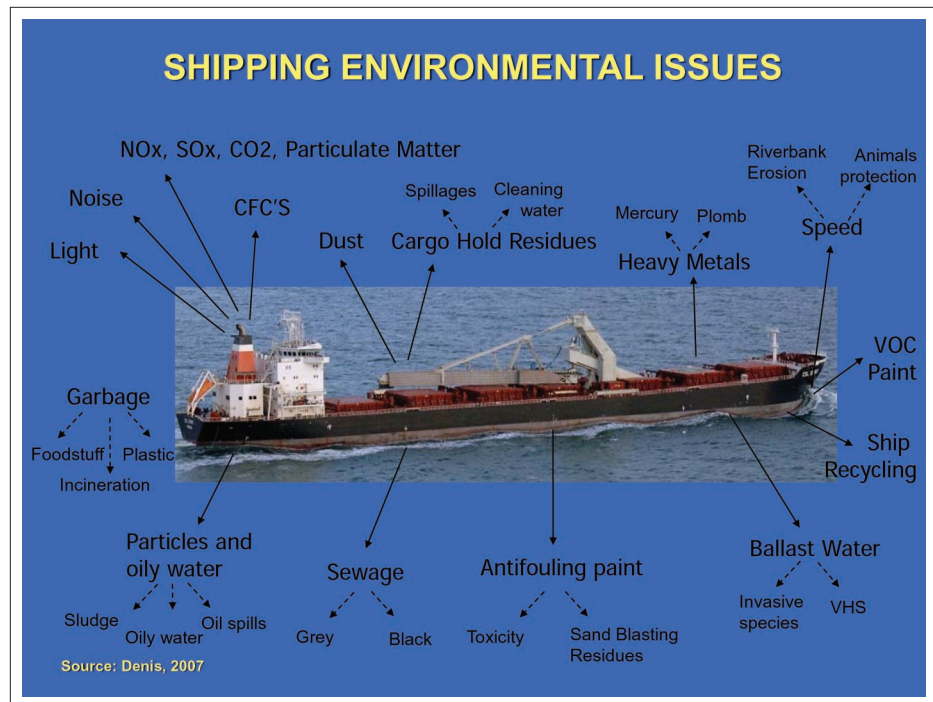
CLAUDE COMTOIS

The ideal gateway then, is that which provides immediate transfer of everything, towards any mode, in all directions at market price, where distance delay would be negligible; no technology would ever allow for this.

The full functioning of gateways and corridors rests on cost-effective terminals, eliminating empty moves, curtailing cargo waiting time, reducing delays, all related to energy consumption. They must also be accessible, including network continuity, minimizing headway, and have the capacity for high frequency and regularity of movements. Moreover, gateways and trade corridors must have the capacity for expansion as to allow for traffic growth.

ENVIRONMENTAL IMPACT OF THE SHIPPING INDUSTRY

The development of gateways and corridors, multilayered hubs and multimodal transportation systems subsequently has significant environmental impacts. Marine transport, for example, is a generator of important environmental consequences (Figure 1). Thus, multiple regulatory frameworks on polluting emissions reductions are a certainty. The emerging outlook is emissions control areas addressing climate change, water, air, soil, noise, biodiversity and land take issues.



C. Comtois, Université de Montréal

FIGURE 1

While environmental regulations are needed by governments on the one hand, there must also be a market approach to gateway sustainability. For instance, international legislation suggests that the environment has become a factor of changes in terms of obligations, responsibilities and competitiveness. Subsequently, the practice of sustainability and sustainable development has become integrated in the traditional economic logic of enterprise.

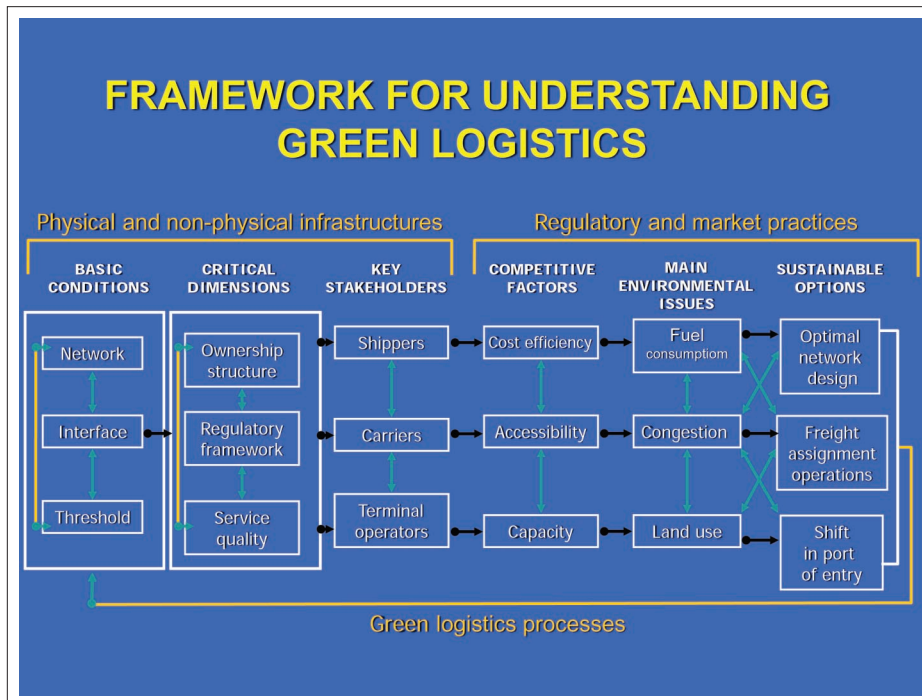
FINDINGS

The findings of this recent study show that best practices of sustainable development have already been integrated. For instance, insurance companies reduce insurance premiums of firms that have a green certification. A growing number of investors are seeking socially responsible investment opportunities. Moreover, it has been demonstrated that green technologies permit firms to achieve important savings. Equally revenue sensitive are environmentally differentiated fairway charges that permit carriers to increase revenues. Such differential charges are also found in merchant banks, who are implementing credit programs charging different interest rates to terminal operators and carriers in relation to their environmental performance. The green movement has lead international manufacturers and retailers such as IKEA, Wall-Mart, Nike and Home Depot to develop alliances with land and

ocean carriers and freight forwarders to include environmental performance of product transport into their corporate footprint. The research has also found that investments of the transport industry in clean technologies and energy efficiency reduce the financial costs of the transport industry in meeting emission reduction requirements. More and more new ventures are directing their attention to the new market opportunities that exist, using environmental management expertise to become a statutory and even a commercial advantage. Lastly, legal and compensation costs related to transport project development have an influence in global transactions of mergers and acquisitions.

In order to capitalize on some of the market approaches to gateway sustainability a framework is needed for understanding green logistics (Figure 2). On the one side there are the physical and non-physical infrastructures, which cover basic conditions, critical dimensions and key stakeholders. On the other side there are regulatory and market practices, which govern transportation flows and influence the dynamics of the transportation system. Competitive factors are expressed in terms of transport capacity, safety and productivity. Moreover, there is evidence of complex systems of differential charging for environmental purposes that address operations of the full transport chain. Best sustainable practices take the form of optimal network design, freight assignment operations and shift in port of entry.

The various approaches to green logistics and sustainable development give transport stakeholders competitive advantage, and enhanced efficiency and profitability of transportation based gateways and corridors.



C. Comtois, Université de Montréal

FIGURE 2

CONCLUSION

With increasing growth in world traffic, future scenarios will have to consider the provision of transportation and related services worldwide through an intermodal system combining ship, plane, truck, or train transportation.

Gateway operations, global intermodal network and supply chain management have become the main driver of traffic growth. The growth of international traffic is already included in the global context of green logistics, and corporate strategies are integrating sustainability as a competitive asset. For example, the Saint-Lawrence Great Lakes carriers, shippers and terminal operators are developing corporate strategies to include environmental performance of product transport.

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CLAUDE COMTOIS

The growth of international traffic is already included in the global context of green logistics, and corporate strategies are integrating sustainability as a competitive asset.

CLAUDE COMTOIS

SESSION FOUR

The Saint-Lawrence system possesses most of the prerequisites to become an international trade based corridor and gateway. The success of the policies being canvassed towards propelling the Saint-Lawrence axis corridor into an integrated world transport industry, will largely depend on decision-making processes responding to and converging on these changes.

Panelist #2: Glen Murray

President and CEO, Canadian Urban Institute

DEVELOPING SUSTAINABLE HUBS AND CENTRES

PRINCIPLES FOR SUSTAINABLE CITY PLANNING

Glen Murray covered important principles for consideration by urban decision makers in policy making to support the timely and efficient movement of goods in Canada. It is challenging to talk about the development of sustainable hubs and centres without addressing the principles of sustainable city planning.

Six main principles:

1. Adopt a long-term lens
2. Understand the ecology of commerce and nature of a region (mapping)
3. Use an integrated and comprehensive approach
 - a. *Economy: Wealth generation and connectivity*
 - b. *Environment: Biodiversity and natural capital*
 - c. *Culture: Authenticity and Identity*
4. Favour adaptive management and collective learning
5. Focus on urban and bio regions
6. Adopt collaborative engagement and governance

In addition, in planning for wealth and sustainability, cities must also build essential elements into their planning process:

- Energy and emissions expenses of existing infrastructure and future investments
- Value impacts and return on investment from infrastructure, zoning and spatial organization of places
- Alignment of fiscal policy (taxation and expenditures) with economic and environmental outcomes
- Resource recovery and reuse (waste energy)
- Sufficiency for policy outcomes (enough)

SUSTAINABLE PUBLIC TRANSIT SOLUTIONS

Public transit has the potential to increase property and asset value. To increase this value, we need to build a tax base that includes a return on investment. The revenues should increase the life cycle of the application. Public transit ought to be iconic and contribute to place-making and lived culture, like the Red Rocket in Toronto, the subway in Paris, or even the phone booths in London. They have made significant statements and have gained in material and cultural value, beyond their actual functionality.

Transit systems ought to be durable and renewable. They should move as many people as conventional transit and faster. The average speed of the Toronto street car is 12 km/hour with the ability to go 90km/hour.

They should also facilitate intensification of hubs and commercial activity that invite private investment and cost less to build and operate than at the conventional level; less than one quarter of the cost. They should run on small amounts of clean and green power. There should be zero GHG emissions and criteria on air contaminants. Ideally transit systems should have no conflict with traffic and street signals and be capable of moving over obstacles in the natural and built environment.

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GLEN MURRAY

Transportation activities give rise to several environmental concerns. Air contamination is particularly important in large urban areas. Transportation is responsible for about 30 percent of greenhouse gas emissions in Canada. Transportation networks also allow people to live farther from regional centres, thereby leading to greater urban sprawl. Even subsidized urban transit can contribute to urban sprawl especially when municipalities discourage housing density.

JACK MINTZ

BIG CHALLENGES

Cities are places that generate wealth. To achieve this today, cities must address several issues:

1. Capacity in Infrastructure is a Disaster

We've used up 79% of the life cycle of existing infrastructure. Our rate of re-investments is less than half the rate of decline.

2. Obsolete Governance Models

There is a lack of development of urban regions. Québec has done a better job of regional planning and organization. Regional planning is well advanced in Ontario but there is no comparable regional structure or organization to support.

3. The Emergence of a New Economy

The shift from a manufacturing to a knowledge economy is dramatic. In the greater Golden Horseshoe as well as Québec, 1/3 of jobs are manufacturing, 1/3 are service and 1/3 are creative (science, technology, design, arts, culture, innovation, media, film, and specialized finance services). Eighty percent of goods generated are in the creative sector. We are facing a major shift. Our cities are way behind the times in mastering their economies. They are still planning and developing for the industrial economy, not what the jobs are now!

4. Conditions of Success in a Global-Local Economy

Quality of place and level of culture is a beautiful subway station instead of a Toronto subway station. If you actually zone or offer commercial investment opportunities, then the platform becomes a destination, not just a place to go through.

5. Open and Engaged Educational Institutions

It's amazing how too many of the Canadian universities do not quite yet understand their role as the most important economic innovator and generator in the community. It is very difficult to succeed without a major research institution. Cambridge is engaged; faculty members work and participate in community life, and partner with business.

6. Liberation of Resources for Cross Sector Engaged Research and Innovation

Municipalities spend almost nothing on Research and Development, and innovation in the areas of infrastructure, fiscal policy and governance is almost absent.

7. Loss of Biodiversity and Natural Capacity

Towns in British Columbia that are oriented towards tourism and forestry are facing the pine beetle epidemic and are dealing with more accelerated local environmental problems; the loss of plant and animal life, the effect on agriculture and the dramatic pace of climate change.

CONCLUSION

Urban systems, from zoning and transportation to energy and taxation, all have to be reconsidered in the innovation-centered and carbon-constrained global economy. The global economy is not national or industrial and must be understood as interconnected urban regional economies. It is the health of both the natural ecology and the business ecology of place that must be understood as the foundation of prosperity. Where, what and how we move, build and eat are more critical urban planning and consumer decisions today than ever before in human history.

In the 2001 publication: "Moving Goods in the New Economy: A primer for urban decision makers",¹ urban goods movement was described as one of the most critical issues facing the cities and our country today. Four principle points were highlighted; absence of policy, shortage of data to help us understand where we are and where we are going, the urgent need for all levels of government to work together to develop solutions; and the awareness of economic and environmental priorities for goods movement developed around the world.

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GLEN MURRAY

It is contrary to market competition if it is cheaper to add new transportation and capacity than it is to use existing, due to a regressive taxation system - so reverse it now! Overtaxing and overcharging utilities on already developed land is an equation that drives away smart investors, and it is not sustainable.

GLEN MURRAY

Where, what and how we move, build and eat are more critical urban planning and consumer decisions today than ever before in human history.

GLEN MURRAY

¹ Moving goods in the new economy: a primer for urban decision makers.(2001). Proceedings and additional research resulting from a series of workshops organized by Moving the Economy and the Canadian Urban Institute.

SESSION FOUR

Panelist #3: **Mario La Barbera**

President, Pival International

THE CREATION OF A MAJOR VALUE ADDED MULTIMODAL LOGISTICS CENTRE FOR EASTERN NORTH AMERICA.

OVERVIEW

The Municipalité Régionale de Comté de Vaudreuil-Soulanges is an area enroute to Montréal from Toronto. It is a small community of 100,000 people, largely focused on agriculture and farming. It is interesting to note that thousands of trucks and box cars (CP and CN) and hundreds of vessels (St. Lawrence Seaway) pass by this area each day. In order to promote the region and create value, a market driven action plan was developed leading to the discovery of a new corridor for Ontario and Québec.

There is no real value in the corridor unless it is market driven. It is not about policy and it is not about theory, but about getting people to say: I would like to do business in your area. I would like to take money from my pocket and invest it in your community.

In order to garner support, we had to provide evidence that this was important to central and eastern Canada. Through research and consultation with business, communities and governments, we developed a vision, a mission and objective. Our vision for the region is to create a major value added multimodal logistics centre for Eastern North America, with a mission to develop a transportation and logistics platform west of Montréal. The objective is to become a zone of excellence for material handling and intermodal transportation.

RETOOLING AND SUSTAINABLE DEVELOPMENT

In order to set things in motion, we had to retool ourselves, as the market was demanding large scale industrial parcels for large scale developments. As environmental concerns emerged, we strived to balance industrial development while protecting agricultural land; some of the most fertile in Québec. For example, two years ago a tractor trailer (carrying chemicals and hazardous materials) was overturned at the junction of Highway 40 and Highway 13; virtually paralyzing the outer Montréal area. The island of Montréal itself came to a stand still as a result of one driver incident. Road and rail access to the island of Montréal was at risk and as a consequence, a high cost was associated with network delays and congestion. There is clearly a risk with the status quo and high cost associated with network delays.

Challenges needed to be addressed, not just locally but through regulatory and policy planning.

DEVELOPMENT OF A REGIONAL MANAGEMENT STEERING COMMITTEE

Governments were engaged at the local level (CLD Vaudreuil-Soulanges, the office of Local Economic Development), and a Transportation and Logistics Management Steering Committee was established. This committee is comprised of eleven members, including representatives from Alta International, CAT, CN, CP, Interactive Decision Solutions, Metro Canada Logistics, Pival International, Port of Valleyfield, Truck load Services, CLDVS, school boards and local colleges. Communication with various stakeholders allows individual cities and municipalities to start working more collaboratively with neighboring communities to create a common agenda.

ENGAGING GOVERNMENTS

In order to create this common plan, a Regional Roundtable was established that included the CLD, the port of Montréal, the Airport Authority, members from the transport industry, elected officials from both the Island of Montréal and the area, as well as five businesses. We took our ideas and introduced them, with the support of the Regional Roundtable, to the provincial level; a program called ACCORD; and to a National Strategy program of Gateways and Corridor policy makers, representing Canada, Ontario and Québec.

IMPACT TO DATE

Two thousand jobs were created based solely on transportation logistics, distribution activities and value added services such as product labeling, consolidation, deconsolidation, repackaging, and some assembling. All these activities create value and create jobs, and have generated with these projects alone, 400 million dollars in investments.

On April 16, 2008, Canadian Tire Corporation Ltd. announced the construction of a 1.5 million square foot distribution centre in Vaudreuil-Soulanges, which would double the current activity in the area. The facility is an eight million square foot site, with 20 km of conveyer systems to

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MARIO LA BARBERA

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MARIO LA BARBERA

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MARIO LA BARBERA

be completed by December 2008. The involvement of Canadian Tire in the region has allowed for significant credibility. The plan is to use the region to combine large volumes of containers coming from Atlantic Canada and containers coming from the Pacific coast, shipped to Québec, Ontario, the Maritimes and other locations.

Canadian Pacific has also gained an interest in this region and has recently acquired 32 million square feet of land, about the equivalent of 30 Canadian Tire buildings. It is right in the middle of an area that historically was agricultural.

This project is basically an inland port, a multi modal zone. It will have non-stop service from Vancouver to Les Cèdres. It will also be designed to allow for other major services and distribution centers. Large scale distribution centers, with well recognized companies that are currently doing business in Ontario and the United States, will expand into Québec. The project will support a train length of 10,000 feet, 1,200 to 1,300 trucks per day, and 500,000 containers per year.

It is an exciting project, with a planned opening in 2012. An additional positive aspect for the region is that it has access to the autoroute 30, which is basically part of the TransCanada highway. In addition, Highway 401 and the TransCanada meet in Soulanges.

The Québec Government has recently announced the completion of Highway 30. This highway is basically the beltway around the Island of Montréal that allows transport from Ontario to the Maritimes, Québec City, or the south shore, without having to go onto the island itself.

The rationale for setting this facility outside of the Island of Montréal is due to a potential increase in value of real estate. Not unlike New York, Manhattan used to be the center of all intermodal activities, as central railroads ran into Manhattan. Over time, they were forced to leave and now over 90% of freight goes to New Jersey.

CONCLUSION

Through working together over the last two years, with the right environment for investment, we are gaining momentum. Our planning activities are well integrated at all levels. It was quite challenging to gain the support of the community; however they came to understand that the 30 companies, or distribution centers, will bring value. Major infrastructure investments are required. It is not just about the completion of Highway 30 but also about building new interchanges, accesses, as well as negotiating agreements with railroads and trucking companies. Moreover, we remain concerned about the environment. Green considerations and solutions are part of the plan. More than anything, government and community support is needed, especially considering that Vaudreuil-Soulanges is a farming community with arable agricultural farmland.

We have already seen vast developments in the region. Two years ago you could be driving through our community and drive for two days and not find a logo on a building, but now we have major investors, such as Canadian Tire, Kraft Canada, and Erb Interactive.

Strategic alliances have worked for us and we are going to continue!

Panelists #4: David Conklin

Professor and

Guy Holburn

Associate Professor

Richard Ivey School of Business, The University of Western Ontario

TRADE AND INFRASTRUCTURE IN SOUTHWESTERN ONTARIO

This presentation is a summary of a much larger study. Our focus is the MOU on the Continental Gateway and Trade Corridor signed by the Governments of Canada, Ontario and Québec in 2007. Our objective, as we look at the subject, has been to see what the data reveals and how that data might be used to assist policy analysis.

Under this MOU, parties acknowledge that their activities include defining the geographic scope of the Corridor, studying and monitoring economic indicators and trade patterns, studying trends in international transportation, and improving reliability of existing data.

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DAVID CONKLIN

SESSION FOUR

PATTERNS OF CANADIAN TRADE

Economic growth has been stimulated by international trade. International trade has grown far more rapidly than interprovincial trade. When we consider congestion and infrastructure needs, it is crucial to recognize this enormous gap. If we look at Canada's growth in trade from 1989-2004, we see that trade with the U.S. grew much more rapidly than Canada's trade with the rest of the world or interprovincially. So, in the long-run, there has been an increasingly important flow of goods between north and south. Naturally, there is some debate as to whether this trend will continue or whether trade with other regions, such as Asia, will become more significant in the future.

When we talk about congestion and infrastructure needs, I think it is crucial to recognize that enormous gap! Economic growth has been stimulated by international trade and we see a huge absolute increase in international trade. Perhaps Figure 3 explains better than any, why we are here today.

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DAVID CONKLIN

The majority of trade between Canada and the U.S. is concentrated in Ontario. 48% of exports to the U.S. are from Ontario, which is far higher than all other provinces. When we turn to imports, it's even more dramatic. 69% of imports from the U.S. come through Ontario.

DAVID CONKLIN

The majority of truck traffic passes through the southern Ontario corridor - Windsor accounts for 29% of truck traffic volume, Sarnia 12%, Fort Erie 10% and Niagara Falls 7%.

DAVID CONKLIN

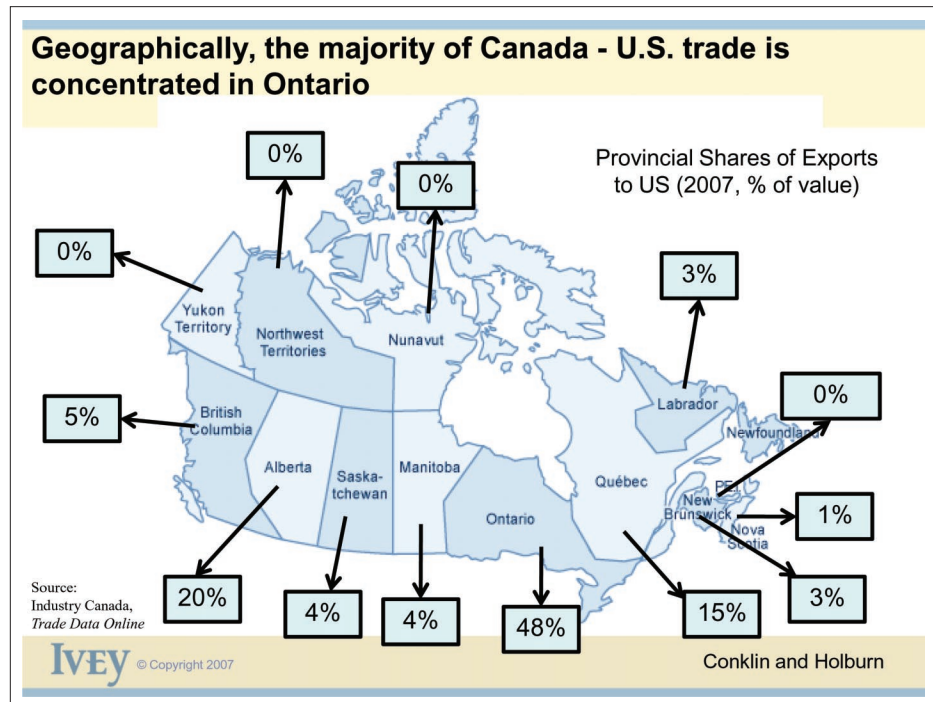


FIGURE 3

The majority of trade between Canada and the U.S. is concentrated in Ontario. 48% of exports to the U.S. are from Ontario, which is far higher than all other provinces. When we turn to imports, it's even more dramatic. 69% (Figure 4) of imports from the U.S. come through Ontario. However, to the extent that goods originate in or are destined to other provinces such as Québec, and are transported through or transformed within Ontario, these data may understate the role of other provinces in Canada's trading relationship with the U.S. Nonetheless, these figures emphasize the significance of the Québec -Ontario-U.S. trade corridor.

When we consider modes of trade, road transport dominates U.S.-Canada trade (whether measured by value or by volume). The majority of road trade with the U.S. passes through the southern Ontario - north east U.S. corridor. As you look at specific cities and border crossing points, we see that Windsor has 35%, Sarnia 13%, Fort Erie 14% and Niagara Falls 2.5% of road trade flows by value. Similarly, the majority of truck traffic passes through the southern Ontario corridor - Windsor accounts for 29% of truck traffic volume, Sarnia 12%, Fort Erie 10% and Niagara Falls 7%.

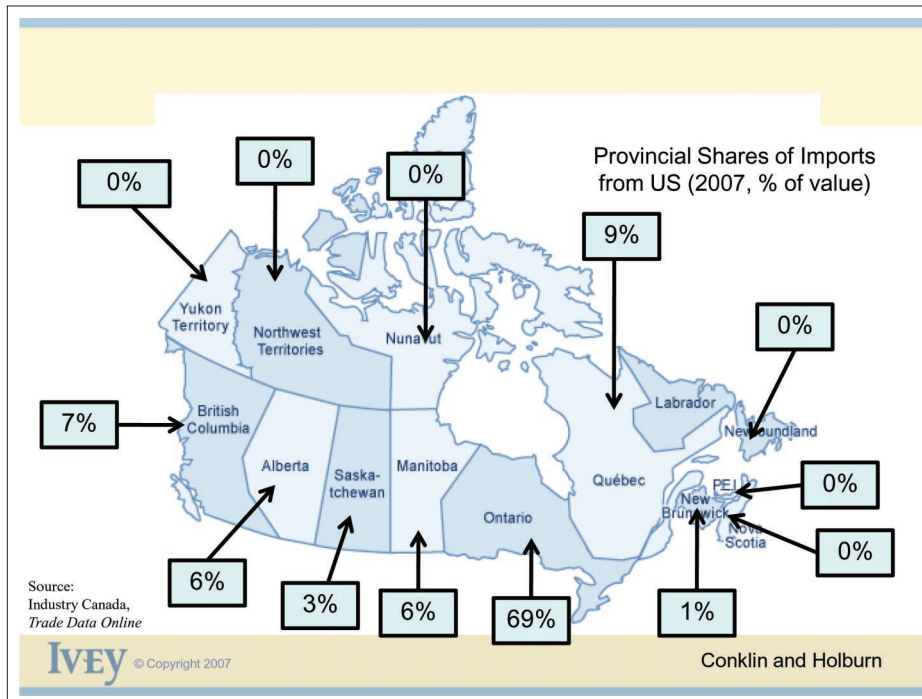


FIGURE 4

Incidentally, if you want to estimate traffic on the 401 or 402, perhaps the best way is to look at the traffic crossing at border points. We have perhaps better data in terms of what crosses the border and what is moving along the highway itself.

If we consider now trade by rail rather than road, we see that Ontario is again a major gateway. Windsor accounts for 20% of trade via rail, Sarnia 28% and Fort Erie 8%.

Environmental pressures may increase the shift of trade from highways to rail, which raises the issue of how to encourage such a shift, and the development and location of multimodal facilities within the corridor.

THE INFRASTRUCTURE OF TRADE

If we adopt a historical perspective, we note that the volume of trade over the past 30 years has increased significantly: for instance, the volume of commercial road traffic through the Windsor-Sarnia gateway has increased by 400% in the last 30 years. However, during this period, there have been few major changes to the physical infrastructure that supports trade flows; including the bridges into the U.S. Projections of future trade flow volumes over the next 30 years suggest that infrastructure congestion will soon become a pressing problem. If we look at a particular point, for example the Ambassador Bridge, we see projections of unstable traffic flows by the year 2010, though many of us feel that we are already at capacity - suggesting that projections have been too conservative.

Regarding the point of congestion, it seems to have become increasingly severe, but we have the conceptual problem again, what is the precise location and nature of that congestion? It is fine to say its at the border crossings, but technically speaking, are we talking about the need for more lanes on bridges, new bridges in that sense, or alternatively, are we talking about inspection facilities and the need perhaps to increase the number of inspection lanes tenfold, in which case one is talking about the pod on either end of the bridge, rather than creating a new bridge itself.

As Stephen Blank has pointed out today, we may not have much confidence in projections, but we certainly do see estimates that suggest that infrastructure is going to become an ever present challenge for us.

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DAVID CONKLIN

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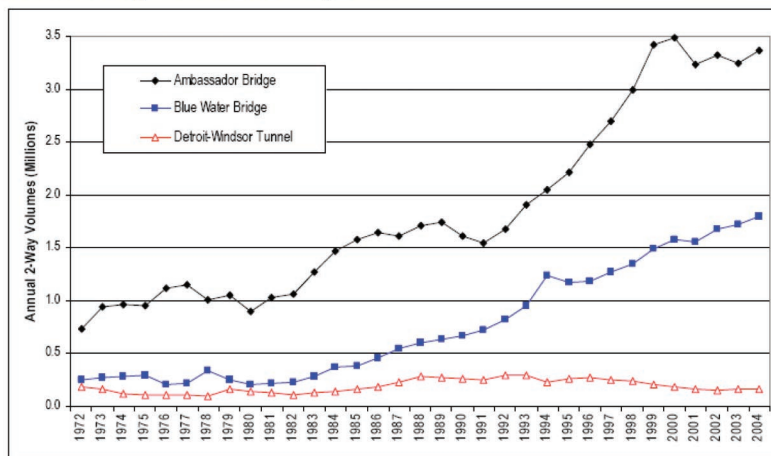
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DAVID CONKLIN

SESSION FOUR

The Windsor-Sarnia gateway has become increasingly pivotal in trade with the U.S. - the volume of commercial traffic has increased by 400% in 30 years



Source: Canada United States Ontario Michigan Border Transportation Partnership, *Detroit River International Crossing Study Travel Demand Forecasts*, September 2005

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Conklin and Holburn

FIGURE 5

In this sense, local municipalities in Ontario and Québec are critical constituents for the intergovernmental MOU; one might think that the municipalities ought to have been signatories as well.

DAVID CONKLIN

In particular, the Sarnia and Windsor border crossings were rated as having the most pressing impact on future growth. The rail network and the 401 highway were also rated as important constraints.

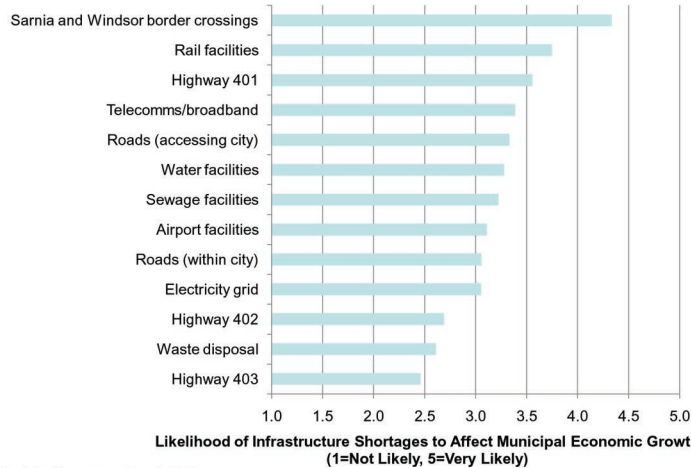
DAVID CONKLIN

Trade, then, depends on sufficient infrastructure investment, not only in urban centers such as the Greater Toronto Area, but also along trade corridors. Investment levels in corridor infrastructure, however, are likely to lag urban investments since multiple jurisdictions typically need to coordinate - which can lead to disagreements over priorities, cost sharing and so forth. In this sense, local municipalities in Ontario and Québec are critical constituents for the intergovernmental MOU; one might think that the municipalities ought to have been signatories as well.

Infrastructure investments are also a key ingredient in a broader economic development strategy, going beyond simply enabling regional trade. In a recent survey of municipalities in southern Ontario, the main finding was that infrastructure shortages or constraints outside their individual jurisdictions were perceived as the most important factors affecting municipal economic development in the future. In particular, the Sarnia and Windsor border crossings were rated as having the most pressing impact on future growth.² The rail network and the 401 highway were also rated as important constraints.

² Ontario Government Announcement, May 1, 2008 - The Detroit River International Crossing study Team Announces Windsor-Essex Parkway, the technically and environmentally preferred alternate for the access road extending Highway 401 to a new inspection plaza and river crossing in West Windsor (estimated price tag of \$1.6 billion).

Southern Ontario municipalities already view trade corridor infrastructure shortages as critical constraints on local economic development



Source: SWEA Municipality survey, March 2008

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Conklin and Holburn

FIGURE 6

POLICY ISSUES AND PRIORITIES

The broad policy challenge is to identify actual or potential infrastructure bottlenecks - e.g. at border crossings - and to invest in the appropriate infrastructure to facilitate the smooth flow of trade throughout the whole regional corridor. Our study identified a number of conceptual and empirical challenges that need to be addressed in order to develop effective public policy.

- 1) Improving the public availability of statistical data on trade flows (including the origin, route and destination of goods and services, and by industry), within Canada and with the U.S.; existing infrastructure stocks, physical capacities and utilization rates

There should be a North American integrated perspective.

If we look at our Canadian statistics, we see some series that were estimated in terms of value of trade, and some series in terms of volume of trade. It is important to know the difficulty of trying to reconcile data sets, some of which reveal trade in value and some trade in volume.

- 2) Identifying the geographic scope of major trade corridors, road/rail/air/port capacity limits, and congestion levels (actual and projected)

If we consider U.S. data in regards to its exports and imports, we may find more complete data sets than we have when we rely solely on Statistics Canada.

- 3) Evaluating the economic and social benefits as well as costs of potential infrastructure projects

Balanced growth may suggest the question: In what way should it be balanced in an ideal sense. Should it be built ahead of demand, as a way of stimulating economic growth and demand in the future?

Jack Mintz referred to the Erie Canal as a developmental piece, in terms of economic growth in the region and the City of New York. One might well ask the question, how can Canada's Corridor stimulate regional development of the areas through which it travels- that is, we're looking not just at engineering issues, rather, when we think of the Corridor, we look at regional economic development sets of issues.

For instance, simple data such as provincial value added by industry sector is not available free of charge for time periods before 1995. Users who wish to obtain this data must pay \$500 and spend time ordering it through Statscan. By contrast, similar data for the U.S. is publicly available on-line back to 1963. Analyses of industry trends, which rely on historical data, are thus much more readily achieved in the U.S. than in Canada.

GUY HOLBURN

SESSION FOUR

4) Identifying strategic priorities for infrastructure investment

- i) Geographic location
- ii) Types or modes of infrastructure (including intermodal options)

Regarding infrastructure, what would the priorities conceptually be in terms of specific geographic regions/transport financing options, if one looks at time profile and priorities, what mechanisms or criteria would one use to rank them?

Environmental pressures may increase the shift of trade from highways to rail, but then, we get into the discussion of multimodal, and the question for us is where, in an optimal sense, would railroads be located?

5) Financing options (public and private funding, pricing strategies)

Reference was made to John A. Macdonald and the railway to illustrate that private investment is not a new trend in encouraging economic development.

6) Coordination of policy across multiple jurisdictions and departments

- i) Within Canada - provincial, municipal
- ii) Outside Canada - U.S. infrastructure, customs and security agencies

PRIVATE SECTOR INVOLVEMENT

Chair: **Anthony Ferrari**, President, Bridgepoint Group Ltd.¹

OBJECTIVE:

THE PURPOSE OF THIS SESSION WAS TO DISCUSS AND LEARN FROM EXPERTS WHO ARE CHARGED WITH INFRASTRUCTURE DEVELOPMENT, INCLUDING PROJECTS WITH THE POTENTIAL TO INVOLVE PRIVATE INVESTMENT. KEY DECISION CRITERIA WILL BE REVIEWED AS WELL AS APPROACHES TO RISK ASSESSMENT. DURING A TIME OF UNPRECEDENTED INFRASTRUCTURE DEVELOPMENT IN CANADA, WE WILL BE MADE AWARE OF HUMAN RESOURCE ISSUES FACING THE CONSTRUCTION INDUSTRY THAT ARE PROVING TO BE CHALLENGES TO IMPLEMENTATION. THE PANEL FORMAT WAS STRUCTURED AROUND THREE CORE QUESTIONS:

QUESTION #1:

WHAT ARE THE APPROPRIATE ROLES OF THE PUBLIC AND PRIVATE SECTORS IN THE DEVELOPMENT AND IMPLEMENTATION OF AN ONTARIO-QUÉBEC CONTINENTAL GATEWAY AND TRADE CORRIDOR STRATEGY?

QUESTION #2:

WHAT ROLE CAN THE PRIVATE SECTOR PLAY TO FURTHER IMPROVE THE PROVISION OF, AND THE DEMAND FOR, EFFICIENT AND SUSTAINABLE TRANSPORTATION INFRASTRUCTURE AND SERVICES?

QUESTION #3:

WHAT ARE THE HUMAN RESOURCE CHALLENGES IN THE CONSTRUCTION INDUSTRY? WHAT LESSONS CAN BE LEARNED FROM ANOTHER MAJOR GATEWAY AND TRADE CORRIDOR IN CANADA: THE PACIFIC GATEWAY?

Panelist #1: David Livingston

President and CEO, Infrastructure Ontario

Infrastructure Ontario is a private company doing public service. It is among world leaders in social infrastructure development, invested with broad commercial authority and with in-house, multi-disciplinary expertise. Its role is to execute assigned products, drive scope detail post assignment, project costing prior to Alternative Finance Procurement (AFP) release, manage the procurement process and construction phase, and hand over projects when construction is completed.

David Livingston underlines that Infrastructure Ontario is purely an execution agency. Governments decide what the priority projects are and where capital is to be spent. Once it has been determined that a project can deliver value for money through AFP, it is handed over to Infrastructure Ontario.

TERMINOLOGY

In Ontario, “public-private partnerships” (3Ps) are routinely equated with privatization. Ontario is not alone in facing this terminology problem; the State of California is trying to get more involved with 3Ps, which they refer to as Performance Based Infrastructure (PBI). In Ontario, the model is called Alternative Financing and Procurement, or AFP. If there is a term in the world that is being used right now that makes the most sense, Mr. Livingston recommends PBI- that is exactly what it is all about- it is appropriately allocating risk between the public and private sector, to get projects done to standards. It has nothing to do with privatization.

AFPs are:

1. Integrating a project’s Design, Build, Finance and Maintenance components and Lifecycle costs;
2. Risk Transfer;
3. Value for Money;
4. On time, on budget execution.

Governments decide what the priority projects are and where capital is to be spent. Once it has been determined that a project can deliver value for money through AFP, it is handed over to Infrastructure Ontario.

DAVID LIVINGSTON

Transportation is not a stand-alone issue, but part of a national development strategy, renaissance for outlying cities, increase of personal living quality and sustainable development for the economy.

ERIC KUNG

¹ Anthony Ferrari is the business advisor to our Workshop. You may find his document “Public Private Partnership” 2007 on the Lawrence National Centre website: www.lawrencecentre.ca.

SESSION FIVE

What form/institution/organization do we have that is one to two arms length away from government and politicians? How can we discuss these issues and not get bogged down by the next election cycle? (e.g for High-Speed Rail).

TEODOR CRAINIC

Since the principal decision makers are going to be elected officials, get them involved and engaged and at the same table. If they agree and commit on a common agenda then it is both powerful and very hard for them to back off. That is exactly what they did in Madrid, Spain. They did not steer away from politics; they went right to the political leaders and talked to them about it. They spent time to learn how political leadership can be helpful and met their time frames.

MICHAEL FENN

It is the responsibility of politicians to decide. However, the private sector sits on the fence too much; telling governments that they need to sort out their problems. The private sector validates plans and approaches, and should do a much better job than they are doing today.

Perhaps this is something the Lawrence Centre can take on. We do not get enough support from our universities to do things as a collective, as a group, to help governments make decisions, come up with plans, or perhaps even challenge governments on ways to make things better.

DAVID LIVINGSTON

RISK TRANSFER

Risk Transfer is the essence of this model. The problem with a project is invariably due to flaws created by lack of coordination between four components: design, build, finance and maintenance. A difficult project for us could be where a bidding group gets together, consisting of an architect, engineer, general contractor, debt financier, equity financier and maintenance manager, they put a proposal together, but not everyone is on the same page. It is not complicated; one just has to make sure that everyone knows what they should be doing. When construction is completed, payments will repay construction costs and maintain the project over its lifetime- typically a 25-30 year contract.

MYTHS AND REALITIES

In order to manage interest group opposition, it is necessary to educate the public and to counter myths with reality:

MYTH #1 - AFP PROJECTS COST MORE

Reality:

- AFPs transfer more risk to the private sector, can reduce lifecycle costs and improve service;
- Only if value for money is achievable will AFP be used to deliver an infrastructure project.

MYTH #2 - PRIVATE SECTOR PROFITS COME AT THE EXPENSE OF SERVICES

Reality:

- Private sector construction firms have always been used to build public projects;
- What has changed under AFP are the terms of involvement, which articulate penalties and create incentives to protect the public interest;
- For AFP projects, the private partner assumes the risk of cost overruns and late delivery- not the taxpayer.

MYTH #3 - AFP PROJECTS MEAN PRIVATIZED HEALTH CARE

Reality:

- The government's commitment is firm: hospitals will continue to be publicly owned, publicly controlled and publicly accountable;
- All AFP projects are strictly governed by the Province's Building a Better Tomorrow framework, which preserves public ownership of key public assets such as hospitals, schools, and water and wastewater infrastructure.

MYTH #4 - THE PROVINCE IS ISSUING SECRET PROJECT TENDERS

Reality:

- All Requests for Proposals are posted on Infrastructure Ontario's website when they are released to short-listed bidders;
- The project agreements with the project teams are available on Infrastructure Ontario's website;
- A third-party Value for Money assessment is completed for each project under construction and a copy of the report made available on Infrastructure Ontario's website;
- All AFP projects are open to independent, third-party review by the Auditor General's office.

DELIVERING PROJECTS FOR ONTARIO

Nearly \$6 billion in capital was tendered in the past 26 months. A variety of projects were closed with diverse market participants, advisors and stakeholders; standardized models and templates were utilized. The province has not seen such infrastructure renewal at this pace for many years. Because of the significant number of projects, Infrastructure Ontario was able to leverage them and work much faster than if the government did it all by themselves- it is very much a function of capitalizing on the skills in the market place and executing properly. Infrastructure Ontario is starting to see clients from around the world. Bidders like the Ontario model because it is faster and more efficient than in the United Kingdom, therefore resources are being moved to Ontario. The organization is now getting international acceptance and involvement, which improves its productivity and competitiveness!

Panelist #2: Michael Fenn
CEO, Metrolinx

Metrolinx is a new Provincial agency, charged with coordinating and putting in place an integrated, sustainable transportation system, everything from transit to freight movement across the Greater Toronto and Hamilton area. It is led by a predominately municipal Board of Directors whose vision includes both sustainable transportation and sustainable communities. The integrated 25 year Regional Transportation Plan (RTP) for Fall 2008 includes RTP "Green Papers" on Active Transportation, Mobility Hubs, Movement of Goods and Services, Roads and Highways, Transportation Demand Management and Transit. The Investment Strategy includes dedicated revenue sources and tools, full-cost pricing, life-cycle asset management, rolling capital plan and Alternative Financing and Procurement (AFP). The three pillars of the strategic approach are People, Economy and Environment. The challenge in Ontario is substantiated as we move from a Toronto/Hamilton metropolitan area of 5.5 million people to 8.0 million, and consider the quality of life, the environment and Canada's competitiveness.

INVESTMENT STRATEGY

The Investment-Strategy-Vision includes:

- Shared responsibility for all orders of government;
- Broad range of financing tools and revenue sources;
- Dedicated funding for life-cycle expansion, renewal, maintenance and operating needs;
- Benefits case approach to drive project advancement;
- Support for key public policy directions: health, environment, stronger and more competitive communities;
- Private sector participation with appropriate public controls, transparency and consideration of public interest.

We will go from 5.5 million to 8.0 million people - where are we going to put them? It means the intensification to avoid loss of farm land. Our obligation is to ensure that we best prepare this region of Canada for its predictable future. The Government of Canada needs to be financially involved. Senior levels of governments in all other parts of the world contribute financially to infrastructure and transportation.

MICHAEL FENN

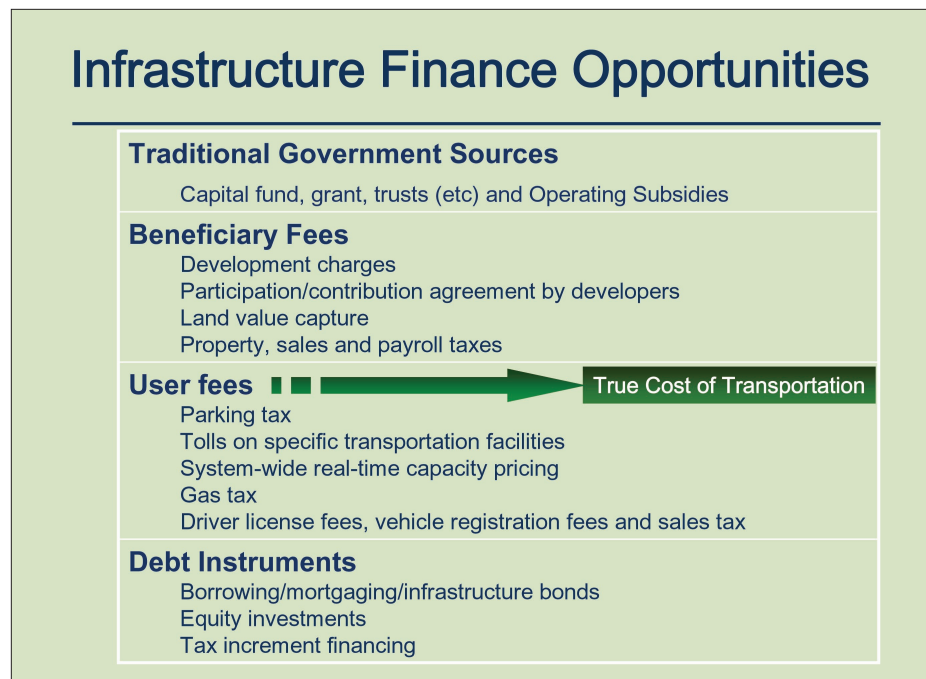


FIGURE 1

Initial AFP "evaluation" priority projects approved by the Metrolinx Board include:

- GO Lakeshore Rail Electrification, Hamilton to Oshawa;
- Yonge North Subway Extension, Finch to Richmond Hill;
- Scarborough Rapid Transit (SRT) conversion and extension ;
- Toronto Transit City Rapid Transit:
 - Eglinton, Finch West and Sheppard East;
- York Region- VIVA Rapid Transit
 - Yonge, Highway 7 and Markham North-South Link;
- Preliminary AFP evaluation results Spring-Fall 2008;
- Other projects with AFP potential.

MOVING FORWARD - BOLD SCENARIO PLAN

The MoveOntario 2020 plan includes an unprecedented investment of \$17.5 billion rapid transit vision for the Greater Toronto and Hamilton Area (GTHA), including funding for 52 rapid transit projects- equal to 902 km of rapid transit corridors (Figure 2).

Highlights include:

- 65% Provincial (11.5 billion) and proposed 35% Federal (6 billion) cost-share to cover capital- unilateral 100% Provincial option;
- Build over 12 years and finance over 50 years;
- 95% of projects complete by 2020;
- Continued Provincial gas tax allocations to municipalities to support transit operating and capital expenditures;
- Environmental Assessment (EA) Process: new 6-month accelerated timeline for rapid transit.



FIGURE 2

In response to Toronto and Canada's lack in infrastructure progress, Metrolinx has a 'bold scenario' to push Toronto towards greater infrastructure projects. Many regions outside of the Greater Toronto and Hamilton area (GTHA), such as Newmarket, Milton and Pickering, are indicating significant urban growth. These 'urban growth centres' are to be connected through a 'Regional Express Network' (REN). This plan, or Bold Scenario, would connect the GTHA westward to Georgetown and all the way east to Oshawa, providing more regions and commuters with an alternate, faster, and greener mode of transportation.

The MoveOntario 2020 agenda is to be implemented over the next 12 years. The Government of Ontario will finance 2/3 of the cost and the remainder will hopefully be funded by the Federal Government. Our view is that a successful transportation initiative will meet a lot of Federal objectives. People need to get to their jobs without finding themselves isolated- socially, geographically and economically - in their home communities.

MICHAEL FENN

Transit is green. Both by transit and other means we must continue to reduce Green House Gas emissions. Our view is to look at the Federal criteria for investing in local areas- our intent is to match the Federal criteria. Inexpensive universal transit means that people can get to places easier, faster and more effectively.

MICHAEL FENN

This plan, or Bold Scenario, would connect the GTHA westward to Georgetown and all the way east to Oshawa, providing more regions and commuters with an alternate, faster, and greener mode of transportation.

MICHAEL FENN

Mr. Fenn, in his remarks, reminded us that the best way to get behind cost efficiencies in the building of transport infrastructure, like that achieved in western Europe, is to have a long-term vision and sustained funding, making every effort to move away from isolated one-time projects.

There was a time in the 1950's in Toronto, when Canada was considered a ground breaker, particularly in the rapid transit field with Toronto Transit Commissions' subway innovation. Montréal moved even further in transport technology. Spain, it appears, has done as much in a decade as we have done in five decades- gives you some sense of our challenges and what lies ahead.

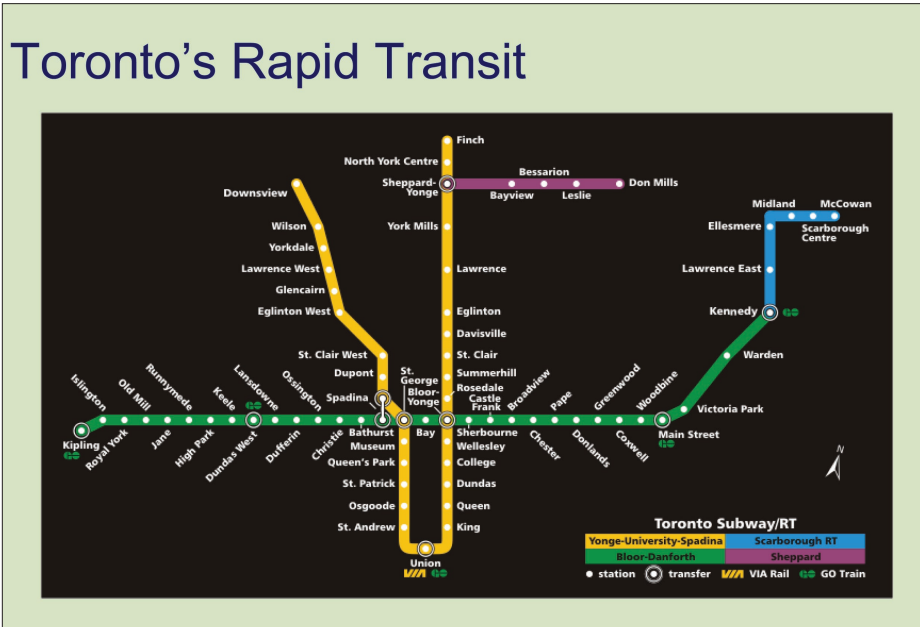


FIGURE 3

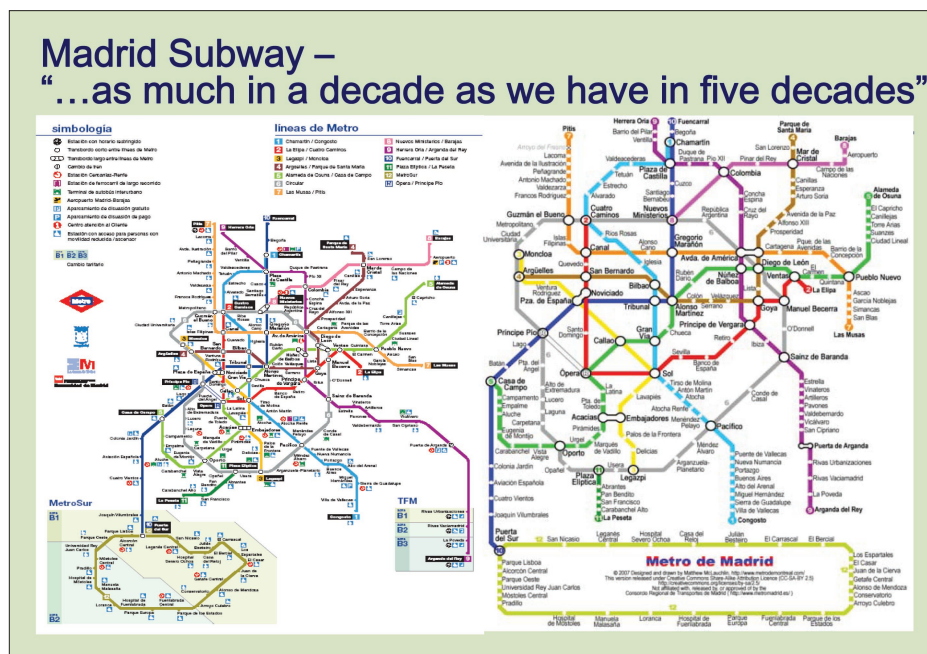


FIGURE 4

Are there reasons for the Federal Government to be involved with Metrolinx? Is your mandate broad enough? As Glen Murray observed, focus on the economy as well as social and community planning.

MARK HEALY

We are a planning agency and our mandate is to look into the future and influence the direction, but we are realistic in trying to plan for what we think might reasonably come our way.

MICHAEL FENN

China is investing 200 billion U.S. dollars to complete high-speed rail by 2010, Spain invested 100 billion U.S. dollars to build 10,000 km of dedicated high-speed rail tracks, from Seville to Barcelona, via Madrid in 2008. When you are falling behind in decision making, you know you have serious problems.

ERIC KUNG

Consider the policy/political side, it's the failure of government to be the catalyst to deliver. Consider that by mobilizing private sector capital, Singapore and Madrid have surpassed Toronto in the last ten years in building the level of infrastructure required.

GLEN MURRAY

Panelist #3: Tim Murphy

Partner, McMillan Binch Mendelsohn

"What is the most effective way for the private sector to be involved in the provision of sustainable transportation infrastructure and services? If 3P's is what you want, how do you maximize the success?"

WHAT GOVERNMENTS NEED TO DO TO GET IT RIGHT

Governments need the right expertise on their side of the table and the right levers of accountability to help enhance the legitimacy of 3Ps as a vehicle for delivering public and quasi-public goods and services and to monitor the risk allocation throughout the project term.

To make an accurate comparison between 3Ps and traditional government procurements, it is not the cost, but the net benefit, taking into account all factors, which is the most relevant benchmark. Here, a well-negotiated 3Ps model can offer significant value for money assuming, and this is the key point, the risk transfer to the private sector is effective.

Carefully crafted service and quality standards in a concessionary 3Ps contract combined with effective oversight provide the public sector with the power to clearly define and control the levels of quality and service required of its private sector partners. Penalty clauses and in the extreme case, the right to terminate the contract, can be used by the public sector as a discipline on service quality.

In order to further enhance accountability, 3P projects ought to be subject to publicly available value for money assessments at three critical stages: (1) at the point of selecting an appropriate procurement methodology; (2) at the point of assessing 3P bids; and (3) at appropriate junctures during the concessionary contract.

Not all projects are ideally suited to a public private partnership. The value for money generated by a 3P rests on clear and accountable incentives and on an optimal risk allocation, by which is meant the measurement and minimization of risk by the party best able to do that.

A lack of contracting expertise can be a significant problem for governments with limited 3P experience. Individual government departments or smaller sub-national entities, such as municipalities, often cannot achieve relevant economies of scale and therefore learn by doing on each project. This leads to inappropriate risk transfers and opportunistic behaviour by private sector bidders and partners. Governments need therefore to commit to a specialized entity and hire the right financial, legal and process advisors to get the risk allocation right.

CHALLENGES FOR TRANSPORTATION AND TRANSIT

One of the key challenges of a 3P in transportation and transit is deciding whether to transfer to the private sector the risk related to the revenues derived from users of the project. Private sector partners and, importantly, their lenders and equity participants, will need a reliable source of revenue in order to take on the risk of the project as a whole. Unfortunately, traffic demand forecasts are notoriously unreliable.

Bent Flyvbjerg, a Professor of Planning at the Department of Development and Planning at Aalborg University, Denmark, has served as policy adviser to various Governments, including the European Commission and the Government of Denmark. He conducted a thirty year retrospective study on forecasting,² which revealed that in rail, 9 out of 10 projects were off by an average of 106%. When considering roads, 50% of the projects were off. He concludes that no improvements in forecasting transport projects had been made in 30 years of experience. Therefore, the private sector will be very wary of revenue streams that depend upon the reliability of traffic forecasting.³

Governments will need to analyze carefully the revenue risk transfer and/or opt for availability payments to induce private sector participation. For example, a high-speed rail project from Windsor to Montréal would involve a high degree of revenue uncertainty. A workable 3P might require governments to separate the construction risk from the operating risk by setting a fixed annual payment to ensure that the trains run as opposed to asking the private sector to rely solely on rider revenue. As the project progresses, adjustments could be made to the availability payments to reflect actual revenues.

² This study may be found at <http://flyvbjerg.plan.aau.dk/>.

³ The Flyvbjerg study has some suggestions on how to improve forecasting.

I have difficulty associating long-term planning with government or, I should say, long-term planning and politics. I think the government people here are all ready and willing to get things done, and put long term plans forward, but politicians are not that willing to follow through on long term plans.

RICHARD BICKLEY

I actually think P3s can help. The way to maximize long term planning is for governments to sign long-term contracts with the private sector. Historically, given a choice between maintaining existing infrastructure and investing in an urgent political demand, governments have picked the latter; short term thinking which has helped cause our infrastructure crisis. P3s fix this problem because they involve a long-term contractual obligation for the private sector to maintain the asset for which the government pays a fixed amount each year over the term of the deal. Neither side can simply back out. So, the government and elected officials are contractually obligated to stick to long-term plans.

TIM MURPHY

A second key challenge for transportation and transit projects is their higher than normal counterparty risk. A private sector participant in a 3P will want to deal with only one public sector entity with the authority to make decisions. However, transit in particular, but also some transportation projects, such as the Windsor Crossing, have many government entities with responsibility; if too many people are involved from too many different sectors, confusion is created, often because people are told two different things. A key early step for 3Ps here is establishing who has the authority to make deals and can drive through all the road blocks.

Finally, transportation and transit have aspects of risk allocation that are particular to these projects and need to be considered. For example, various factors are involved when looking at risk transfer to the private sector, such as: land acquisition/environmental assessments etc.; competition from other subsidized modes of transportation, policy shifts by government (i.e. the need to consider the impact of a policy shift to encourage another mode of transportation).

WHAT THE PRIVATE SECTOR NEEDS

In summary, what the private sector needs for all 3Ps, but in the transportation and transit sector in particular, is the following:

- Counterparty certainty (one entity on the government side calls the shots);
- Reduced change of law risk (policy change risk stays with the government);
- Carefully crafted service standards (do different types of technology make sense within one system?);
- Ensuring that the design-build is not separated from operate-maintain to ensure synergies (try not to separate the builder and operator);
- Clear, transparent “apolitical” procurement process (keep the politics out);
- Predictable, revenue stream that can be financed (consider availability payments if traffic flow is unpredictable);
- Fair contractual risk allocation (this will attract bidders, resulting in more competitive bids);
- Clear long term plans from government;
- Appropriate project size (below a threshold size, transaction costs are too high).

Panelist #4: Rick Byers

Executive Vice President, Borealis Infrastructure

Mr. Byers provided a background on how OMERS and Borealis Infrastructure approve investments in transportation infrastructure. He reviewed the key decision criteria and approaches to risk management. He identified the types of risks inherent in projects and reviewed whether the private sector or the public sector is best placed to manage these risks.

BACKGROUND

OMERS is one of Canada’s largest pension plans with over 370,000 members, over 100,000 pensioners, 44 different unions, 900 employees and \$50 billion in net assets. OMERS has allocated 20% of its assets to infrastructure projects and has been investing in infrastructure projects for 10 years. Borealis is comprised of fifty staff, including 25 investment professionals who oversee a global portfolio of infrastructure assets, with an equity value of \$5 billion. Some of their projects include: Confederation Bridge, Detroit River Tunnel Partnership, the Bruce Nuclear Facility and Porter Airlines. Over the last five years, annual returns have been approximately 16%.

A private sector participant in a 3P will want to deal with only one public sector entity with the authority to make decisions. If too many people are involved from too many different sectors, confusion is created, often because people are told two different things. A key early step for 3Ps here is establishing who has the authority to make deals and can drive through all the road blocks.

TIM MURPHY

In the private sector, the impact of the complaints of unsuccessful bidders has made politicians wary.

MICHAEL FENN

There is a growing history of infrastructure expertise here in Canada: especially in B.C., Alberta, Ontario and Québec. The Federal government is starting to develop its own PPP expertise.

RICK BYERS

SESSION FIVE

INVESTMENT STRATEGY

Borealis identifies opportunities in which the combination of long-term capital and the strategic involvement of Borealis Infrastructure and its partners will generate superior rates of return. Some investment characteristics include:

- Equity investments of \$100 million or more for new investments;
- Strong and capable management teams;
- Sectors that have predictable and stable demand with minimal adverse effects from economic slowdowns;
- Capability to support a reasonable percentage of debt in the capital structure to enhance equity returns;
- Board representation consistent with ownership position;
- High quality sponsorship from the technical, operational and financial perspectives; and
- Prudent diversification of the portfolio by industry sector, geography, size and stage of development.

Borealis actively participates in the management of its companies through board seats, executive committees, audit committees, and project management committees. Such active participation allows for monitoring of the financial and operational performance, including establishing key performance targets and objectives. In many cases regular physical site visits are done, which also allows for regular meetings of the operation management team. They add value to their assets through strategic initiatives.

ROLE OF THE PRIVATE SECTOR:

1. **Risk Allocation** - includes certainty of construction schedule and cost; service standards for operations; and investment in capital maintenance.
2. **Capital Availability** is an important contribution by the private sector. Some of the elements of private capital are:
 - a. *Larger pools of available capital (such as pension funds);*
 - b. *Higher financing costs are offset by more efficient project management; and*
 - c. *Repayment of capital, and investment returns come either from tax base (e.g. hospitals) or rate payers (e.g. toll roads).*
3. **Sector Specialization**
 - a. *Governments are good at policy formulation but project execution is a challenge. The public sector environment is not conducive to managing construction projects. The private sector environment enables project managers to fend off changes to project scope and managers have the ability to say "no".*
 - b. *There is a growing history of infrastructure expertise here in Canada: especially in B.C., Alberta, Ontario and Québec. The Federal government is starting to develop its own PPP expertise.*
 - c. *Infrastructure owners generate performance standards and a database that can help governments in the management of its existing assets.*

CONCLUSION

There are many evolving Canadian models to accommodate the role of the private sector in infrastructure construction. It's all about risk allocation and one size does not fit all.

What is your appetite for failure once a project has been bid on?

RICHARD ZAVERGIU

We use the process of risk assessment up-front to assess the possibility of failure. Our job is to manage the asset and to maximize return, whether things are going well or not. Sometimes we have to work through challenging situations. For example, we own the concession for a new hospital in Ontario, a project that has been in the media a lot. This indirectly involves Borealis, so we work with the Ministry of Health and other partners to make sure we are meeting our obligations under the contract. Our job is to assess risk at the outset and make the right judgment about how we should be compensated for the risk.

RICK BYERS

Earlier concept of 3Ps have always been built by private sector. When discussing "an appetite for loss" you're always dealing with that possibility from a builders perspective. If you don't like it, at the upfront assessment, you have to take that into account.

GORD STEWART

Panelist #5: Gord Stewart

Vice President, Independent Contractors and Businesses Association,
British Columbia

HUMAN RESOURCES: LESSONS LEARNED

Gord Stewart is vice president of the ICBA, a construction association comprised of general and sub-trades in British Columbia. The association provides: apprenticeship programs; management; code and safety training courses; and health and welfare plans. They are also supporters of public-private partnerships (3Ps) and a greater role for the private sector involvement in public infrastructure and service deliveries.

ICBA provides insight into the human resource issue in Western Canada and offers advice as to what trends to focus on and take into consideration when discussing the Ontario-Québec Corridor.

CONTEXT AND TRENDS IN CONSTRUCTION

British Columbia and Western Canada are experiencing a historic sustained economic boom and have, as a result, implemented some ambitious infrastructure programs. Across Western Canada the various levels of governments are investing tens of billions of dollars to upgrade and build the roads, bridges, tunnels, airports and ports needed to sustain economic development.

The ambitious, but much needed investments in infrastructure overlay an already strong Western Canadian construction market driven by commodities, trade with Asia and the emergence of the West as an economic power in Canada.

The record setting levels of construction activity in the West have brought into focus the seriousness and systemic nature of the labour and skills shortage problem we are facing today and in the future. With labour costs representing approximately 30% of the overall construction costs, all construction clients, including governments, should be concerned about how the industry will deal with its human resource challenges.

TRENDS IN EMPLOYMENT

British Columbia has experienced an enormous spike in construction employment, with a 60% increase between 2001 and 2005 (from 110,000 workers to 180,000). This surge in job openings has taken all excess capacity from the labour market and has forced contractors to hire disproportionate numbers of inexperienced workers, when they can even be found. To varying degrees, other provinces in Western Canada have experienced similar phenomena, with the situation arguably even more acute in Alberta.

The impact of the lack of labour and skills is that economic growth is constrained because contractors are short of workers (quantity) and those they have are on average less productive than in the past (quality). In British Columbia and Canada, we are short on both quality and quantity.

The recent trend in labour supply signifies what Gord Stewart terms the “Mega Trend”: What we are experiencing today looks like only the beginning of a new demographic reality in Canada. Between 2010 and 2055 there will be a tremendous divergence between the projected employment trend, demand for labour, and the trend in projected labour force supply (Figure 5).

Positive in that it signifies the potential for economic growth, it does, however, highlight the considerable shortage of domestic labour supply. A failure to deal with the labour supply shortage will, quite simply, drag down economic growth in Canada.

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GORD STEWART

Construction labour productivity has been dropping and demographics suggest that the older skilled workers will be leaving the work force at such a pace that we will not be able to replenish those skills fast enough with domestic labour.

GORD STEWART

One of the truths about immigration is the skill shortage in the GTA and Hamilton area. There is a need to successfully attract workers as we attract migration.

MICHAEL FENN

The problem in Canada is that our immigration policy, largely driven by social goals like family reunification and providing a safe haven for refugees (both noble goals), is not strongly enough connected to the economic needs of the country. Canada is overcounting in the economic classification. The overwhelming majority of immigrants are family, spouses, dependents and refugees, while contributing skilled workers are a small minority.

GORD STEWART

The Mega-Trend

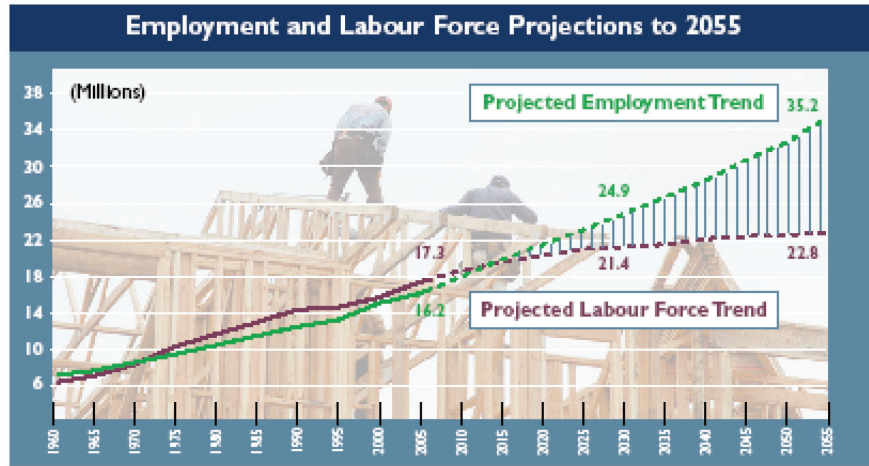


FIGURE 5

While in “all industries” labour productivity in Canada has generally increased over the last couple of decades (though we are significantly behind our major competitors on this measure), construction labour productivity has been dropping. Because our country lacks the needed numbers of skilled trades workers needed, new hires tend to be inexperienced. These new workers will eventually be productive, but the demographics suggest that the older skilled workers will be leaving the work force at such a pace that we will not be able to replenish those skills fast enough with domestic labour.

In British Columbia, for example, apprenticeship numbers have more than doubled since 2004. There is a tremendous interest in trades; it’s sexy again, but without dealing with our outdated immigration policies and some of the government regulations that limit our ability to grow and mobilize our labour force, the situation is likely to continue to deteriorate.

INCREASE “IN MIGRATION”

In order to proactively deal with the projected labour and skills shortage we must look at “in migration”.

In migration includes international workers (immigration and temporary work permits) and the ability for Canadian workers to cross provincial borders without regulatory impediment.

British Columbia and Alberta recently signed a Free Trade agreement called the Trade, Investment and Labour Mobility Agreement (TILMA) which, in part, attempts to deal with provincial barriers to the free flow of skilled labour.

INCREASE IMMIGRATION

On an international front we need foreign workers: we need more and we need better.

The problem in Canada is that our immigration policy, largely driven by social goals like family reunification and providing a safe haven for refugees (both noble goals), is not strongly enough connected to the economic needs of the country.

For example, in 2006, a little over 250,000 immigrants arrived in Canada, which can be broken down into four types of classes: family class, economic (skilled), refugees and other. Of this total number, 138,000 fall into the “economic skilled” category; however, spouses and dependents of skilled workers also get counted in the skilled category. These numbers highlight the fact that Canada is overcounting in the economic classification. The overwhelming majority of immigrants are family, spouses, dependents and refugees, while contributing skilled workers are a small minority.

Of the total 250,000 Immigrants to Canada in 2006, less than 10,000 were trades workers and only 1% qualified for immigration based on their trade qualifications. This statistic highlights how out of sync immigration policy is with the needs of the country.

TEMPORARY WORK PERMITS AND PROVINCIAL NOMINEE PROGRAMS

Because of the burdensome multi year waits to immigrate to Canada, federal and provincial governments are launching a myriad of programs that are notionally intended to expedite the flow of permanent or temporary skilled labour into the country.

The federal Temporary Foreign Worker program has been deemed to be so inefficient that an Expedited Labour Market Opinion (ELMO) pilot had to be launched under that program.

The Provincial Nominee Programs (PNP), similarly, have been created to expedite permanent immigration for highly needed skilled workers.

The ELMO program and to a lesser degree the PNP programs have proved to be reasonably successful at streamlining the processes required to bring skilled labour into Canada, but the need for their creation is a damning indictment of our overall immigration and temporary work permit systems.

In Canada, we cling to a gate keeper mentality with respect to the inflow of young and skilled workers. Meanwhile our competitors such as Australia and New Zealand are actively recruiting the very workers that we refuse or delay entry to.

Our governments in Canada seem to have a sense of how serious the demographic situation is about to become, but the bureaucracy and outdated regulations continue to frustrate industry in its attempts to replenish the skilled labour pool for the future.

REGULATORY ISSUES

From a construction perspective, trades training programs and regulations tend to be the purview of provincial governments.

Significant differences exist between the provinces with respect to trades credentialing and regulation. Provincial parochialism exists with respect to these issues, resulting in barriers to mobility for construction workers within Canada.

The spirit of the TILMA agreement between BC and Alberta, as it pertains to workers credentials, is to encourage mutual recognition of similar credentials, recognizing and accepting that there may be subtle differences in training between the two provinces.

BARRIERS TO ENTRY

The lack of a national qualifications framework (such as many other countries have) prevents Canada from effectively assessing potential immigrants against Canadian standards. And once immigrants enter Canada, the absence of that framework prevents us from effectively recognizing the skills immigrants already have, then moving them up the skills and credentialing ladder. The self-regulating professions and unions have consistently opposed recognizing skills acquired overseas, instead forcing immigrants to "start all over" if they wish to re-attain their professional status. The inefficiency and loss of human potential inherent in our current system cannot be sustained.

Apprenticeship ratios are another controversial and questionable regulation imposed by most provinces on the construction industry. A government imposed apprenticeship ratio acts as a governor or limit on the number of apprentice trainees that a private sector contractor can hire. One has to question why governments deem they have a legitimate role in determining the human resource policies of private sector contractors, particularly when their regulations limit the ability to hire and grow. Recognizing the upcoming demographic challenges and questioning government's legitimate role in this area, BC eliminated apprenticeship ratios in its Act and has seen its program double in less than four years.

In some provinces, apprenticeship ratios require up to three journeypersons to hire one apprentice. When a demographics lens is applied to a policy like that, it becomes abundantly clear that such rules are rooted in labour relations (restricting access to jobs) rather than any legitimate public interest.

To the extent that apprenticeship ratios are imposed by governments, they should certainly be expanded to allow more apprentices into the system in recognition of changing demographics.

With one of the projects I was working on, first and foremost, the complication we had was on planning manpower. We had the money, but not the manpower! The provinces are not there yet!

RICHARD BICKLEY

Absolutely, manpower is a real concern. The apprenticeship numbers will help us eventually, but it still won't be enough. The point to make is even though we double the amount of apprenticeship programs, it still doesn't come close to the numbers of skilled workers we really need.

GORD STEWART

BC eliminated apprenticeship ratios in its Act and has seen its program double in less than four years. In some provinces, apprenticeship ratios require up to three journeypersons to hire one apprentice. When a demographics lens is applied to a policy like that, it becomes abundantly clear that such rules are rooted in labour relations (restricting access to jobs) rather than any legitimate public interest.

GORD STEWART

SESSION FIVE

Apprenticeship ratios are poorly understood public policy instruments that restrict the ability of employers to grow their businesses and to offer employment and training opportunities to young workers.

At the aggregate level, apprenticeship ratios constrain the growth of the skilled trade workforce and drive up costs to consumers by limiting the entry of new workers into industries that use the apprenticeship training system.

While apprenticeship ratios are advocated for by interest groups with an interest in controlling the supply of skilled labour, they are often promoted using the more “sellable” premise of quality control.

The reality is that the quality control processes in apprenticeship training are rigorous and similar to those in other professional careers.

Certification standards are set by industry, labour and government at the national and provincial levels. An apprentice in a four year program would be tested every year against progress toward these standards, and before final certification, would sit a comprehensive written examination, as well as requiring an employer attestation of skills and abilities.

The damage done to the economy and the career aspirations of young Canadians by government imposed hiring restrictions for apprentices flew under the radar in past eras of high unemployment and markedly different demographics.

However, with an aging workforce and systemic skill shortages being the new Canadian reality, one has to question how any government would find a legitimate public interest in retarding the growth of the skilled trade workforce.

SUMMARY

Governments can assist the private sector in helping the public sector build infrastructure by:

- Less regulation (e.g., eliminate apprentice ratios)
- True labour mobility within Canada (mutual recognition of credentials across Canada)
- Real immigration reform: more and better. Governments should be proactive recruiters and not reactive gatekeepers. We should benchmark our country against a progressive competitor such as Australia.

Our immigration, regulatory and training policies in Canada were developed under a socialist system during an era of high unemployment and high interest rates. Despite a fundamental shift in government, economic and demographic circumstances, many of the same bureaucrats cling to a protectionist mindset about Canadian jobs. The result is that we are shutting doors to young workers who we desperately need to build our country over the next generation. Our future as nations depends on the degree to which our governments, and governments around the world, come to terms with and deal with the fact that we should now be competing for eager young workers on the world stage.

In Canada, we cling to a gate keeper mentality with respect to the inflow of young and skilled workers.

Meanwhile our competitors such as Australia and New Zealand are actively recruiting the very workers that we refuse or delay entry to.

GORD STEWART

The result is that we are shutting doors to young workers who we desperately need to build our country over the next generation.

GORD STEWART

SHIPPERS' NEWS

This session provided an opportunity for participants to express themselves on issues and suggestions they may have concerning the development of a competitive and sustainable Ontario-Québec gateway and trade corridor. In particular, participants from the private sector, namely shippers, 3PLs and carriers, provided useful comments and recommendations to governments for establishing policies and implementing appropriate action plans.

Harvey Baker

Transportation Manager, Labatt

We have a very competitive market and at one time had a situation of over capacity. As barriers started to fall with deregulation, and brewing facilities were reduced, we entered an era of more inter-provincial/interregional travel and long distances. How to manage travel cost effectively and in a timely manner is a big challenge.

With longer distances between facilities, solutions involving rail or Intermodal travel are a prerequisite - not only from a cost perspective but an environmental one as well.

The lack of a national reciprocity weight agreement reduces our capability to maximize payloads in many jurisdictions across Canada. Beer is heavy cargo and we tend to gross out on our payloads where most other shippers are restricted by the cube of the unit.

We work closely with our carriers to reduce our delivered cost to market and honour all weight restrictions in all jurisdictions. We would welcome any action in the said area that this paper may provoke.

Steve Baker

President and CEO, London International Airport Authority

Our success has come from the diversification of our business elements of air services, land development, cargo, manufacturing and training services. Total employment generated is 2,623 jobs and economic output of \$357 million per year. Passenger volumes have increased by 51% in the last three years based on our strategy to link all of Southwestern Ontario and the world; 45% of customers come from London and 55% from the region of Southwestern Ontario. Land Development is very strategic for us. We have manufacturing, extensive warehousing and logistics facilities and expanded training centres now targeting international students from China and India. Our final piece of diversification is our Freight and Courier Services. We work with area shippers and forwarders to ensure that individual and consolidated shipping companies are linked together in lead to the market.

We are also working with the Federal Government and Canada Border Services Agency (CBSA) to obtain a designation as an "International Air Cargo Transshipment designation" which will allow us to receive goods from Europe, not process through Canada Customs and to repackage and reship to the U.S. and perform in transit clearance. We expect to have that first designation by the end of the year.

How can we contribute to the panel discussion today and provide meaningful recommendations to government? In the airport industry we are long-term strategic planners:

1. I believe that Canada's strategic prosperity will be fuelled by industries located in regions of Canada and not just in the larger cities and areas. Transportation to regions and beyond the traditional gateways has never been more important than today. I believe that we need a strategy for the Continental Gateway between Ontario and Québec that not only recognizes the significance of opportunities of existing transportation systems but also recognizes subsystems, air, road, rail that can complement the main system.
2. Fuel costs and GHG emissions have major implications to air carriers. To be as efficient as possible means bypassing major hubs for airline travel. Transport Canada needs to recognize that Canada's regions need better connectivity beyond those traditional hubs and better connections from Non-Star Alliance carriers, if regions are to benefit from Canada's Blue Sky policy. We need to measure impacts on regional airports and review specific requirements to attract Non-Star Alliance airline carriers, to allow us to bring in U.S. and E.U. flights and continue those flights onto other parts of Canada.

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HARVEY BAKER

Land Development is very strategic for us. We have manufacturing, extensive warehousing and logistics facilities and expanded training centres now targeting international students from China and India. Our final piece of diversification is our Freight and Courier Services. We work with area shippers and forwarders to ensure that individual and consolidated shipping companies are linked together in lead to the market.

STEVE BAKER

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STEVE BAKER

SESSION SIX

We spend a lot of time lobbying with the CBSA and Transport Canada to ensure that Canada Customs provides us with adequate technology and resources to enable our air link to the world.

STEVE BAKER

Border crossing improvements are critical to the continued viability of Southwestern Ontario manufacturers who rely on the cross-border shipment of materials and finished goods. Improvements include the needed infrastructure to accommodate increased volumes of traffic as well as the streamlining of regulatory requirements for customs and security purposes that are currently contributing to lengthy delays.

JEFF FIELDING

3. Canada Customs needs better technology and the ability to redeploy resources gained from technology improvements. Regional development must be supported with better levels of service. We spend a lot of time lobbying with the CBSA and Transport Canada to ensure that Canada Customs provides us with adequate technology and resources to enable our air link to the world.
4. We need to decrease taxes. Transport Canada needs to recognize the economic development initiative of regional airports. Fuel taxes, GST, Air travellers taxes etc are destabilising the success of the air industry that is under pressure of dramatic escalating fuel costs.
5. Multimodal integration is great, but air is the most attractive and reasonable mode for long-distance travel; carbon tax will have a very unfortunate and unintended consequence for regional airports and our economy. In British Columbia, the regional airlines and communities are hardest hit by the recent announcement of the carbon tax. Transport Canada should review the impact of carbon tax on transportation when discussing this gateway trade corridor.
6. Transportation access to regions beyond traditional hubs is integral to overall regional success! Future success relies on direct services and linkages between North America and the European Union, continued connectivity to main hubs, and facilitating the concept of a Free Trade Zone.

Catherine Mondor

Director Logistics, Bombardier Transport

In order to deliver products just-in-time, while minimizing use of our scarce energy resources, we believe the following five key orientations would benefit all Canadian manufacturers and the entire Canadian economy.

1. Simplify Customs processes between Mexico, USA and Canada; post-9/11 security measures have hampered trade and risk is becoming an unmanageable burden.
2. Streamline and consolidate inter-provincial freight carrier rules; transportation time is suffering due to bureaucratic delays caused by different provincial rules when crossing from one province to the other.
3. Develop dedicated rail lines for freight transportation; many passenger trains share their rail lines with cargo trains; which causes scheduling headaches when trying to satisfy both environments.
4. Prepare for environmentally friendly freight transportation. Freight transportation by train is much more environmentally friendly than by truck. For example, if European freight continues to be transported by truck, greenhouse gas emissions will increase by over 40% between 2000 and 2015. However, if only 40% of freight was carried by rail instead, there would be NO increase at all.
5. Develop a cargo port/route to Asia in Western Canada; at the moment, there is no route to Western Canada to reach Asia. From Eastern Canada, cargo has to go through Panama.

Gerald Slemko

President and CEO, Cuddy Farms Corporation

The whole success of the entire initiative is really dependent on a prosperous Ontario-Québec corridor. If we do not have prosperous communities within this Corridor then we won't be able to sustain it or maintain it.

There have been significant changes in Canada's competitive position over the past five years. The dollar has gone from .63 to as high as 1.08 versus the United States dollar. There has been a shift in world markets to China and India, both as producers and consumers. Energy prices and most commodity prices are increasing resulting in a boom to the western provinces. The North American automotive industry is collapsing as Japanese, Korean and other foreign auto manufacturers gain market share and Ontario is at a disadvantage because of the appreciation of the Canadian dollar and high labour rates. This has had a major negative impact on Ontario and the Ontario-Québec corridor.

The economic prosperity of the corridor is largely driven by the automotive sector; the major employer in many communities along the corridor. And yet, none of the automotive companies are represented at this symposium.

Our company is located outside of London and produces turkey hatching eggs. In 2003, 80% of our business was exports mainly into the U.S. and Western Europe. As the dollar increased in value relative to the U.S. dollar, our business was significantly negatively affected. We weren't competitive and lost large markets. We had to restructure, focus on productivity issues and develop business in new markets, including Russia and Turkey, versus the U.S. and Western Europe.

We've had to change our markets and we are not sure if those markets are sustainable long term. The advantage we've had is we've been the beneficiary of the east-west trade. A lot of cargo comes out of Europe into North America by air. Very little cargo goes the other way, creating a significant overcapacity issue, forcing down prices. We can ship products cheaper into Western Europe than shipping to British Columbia.

Economic growth comes from production and manufacturing. Bringing in goods from China and India won't help us have a wealthy economy. If we don't have good jobs, we're not going to sustain the Corridor.

The Ontario Government has to develop policies and strategies for long term economic growth to replace the jobs we are loosing.

Hank Vander Laan

Founder and Senior Advisor, Trojan Technologies

Looking at the positive side, we have made many improvements when I look back to the early days of crossing borders, dealing with the U.S. pesticide act, regulations and the environment. However, the post-9/11 period is increasingly difficult.

We lengthened the supply chain, which is something we have done in the last few decades, by moving some of our manufacturing offshore. It is too expensive to manufacture in Canada, so we moved to China, which is a growing market for us, leaving Canada to be a knowledge driven economy.

Hidden barriers such as interprovincial water standards and complexities related to an environmental industry have a significant impact. We need to get smarter as an industry.

For example, we consolidated shipments in our warehouse and everything required being at a CCC standard. As the container wasn't quite full, we added a Norwegian shipment that was due out at a later date. Germany would not allow this because they had a PPP standard, so we weren't allowed to store the shipment in Germany, even though it was meant for Norway. Hopeless, irrelevant, non-helpful regulation is what we're faced with.

Tod Warner

Managing Partner, ZTR Control Systems

We manufacture control systems for locomotive generation systems and export a lot to the States. There is a need for real commonality between border customs and the facilities they use to get products back and forth between Canada and the U.S. The Québec-Ontario Corridor is great, but we also need a national vision and common goal to put the infrastructure in place. Legislative differences between provinces are huge and that's a big problem; we are one country trying to succeed.

We need a process in place to evaluate who will be part of the High-Speed (HS) rail. The HS train between Windsor and Montréal will stop in Woodstock, Hamilton, and so many other stops that by the time you get to Montréal, you would have some serious whiplash. So we need a process in place to decide who will be part of HS rail-everyone wants to be on it.

We need a long term vision for Canada as a whole. The interprovincial barriers between provinces are ridiculous - this should be one country!

As the dollar increased in value relative to the U.S. dollar, our business was significantly negatively affected. We weren't competitive and lost large markets.

GERALD SLEMKO

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HANK VANDER LAAN

The creation of a Windsor to Québec City high-speed passenger rail corridor would be a significant step towards a sustainable growth strategy for Ontario. It would promote energy efficient cost-effective corridors and provide opportunities to re-locate freight rail lines from congested urban areas.

JEFF FIELDING

SESSION SIX

Perry Woods

Manager, International Trade and Transportation Services,
General Dynamics Land Systems Canada

We require having our supply base across all the provinces of Canada and regions into the U.S., with Canada-U.S. contracts. At our London operation we use 800 suppliers and we do not experience many transit delays because we actually physically move freight for our suppliers. We notice that specific regulations make it very hard for small-medium size businesses, who are not equipped to handle all the regulatory requirements that are out there. I'd like to see more support for those small to medium size businesses to reduce some of the burdens. Physically, we move our products very quickly, but we need information facilities, more technology, online tools and web based support, etc.

ADDITIONAL SPEAKERS

Tom Sagaskie

General Manager, Guelph Junction Railway

We heard from trucks and airlines, I would like to give a little dose of reality on the issues that small rail companies are faced with in the industry. We all presume that Class One railways will want to participate in Canadian transportation initiatives. Canadian Class One railways are multinationals who own significant trackage both in the U.S. and in Canada. We presume that because the name starts with "Canadian" National or "Canadian" Pacific that they would want to invest in Canada first. The reality is if you look at railway investment, more infrastructure and capacity improvements are taking place in the U.S. than in Canada. For the same dollar spent - part of it is opportunity, land cost, depreciation ratios, taxation and U.S. Federal and State infrastructure funding investments- you can get up to 3.5 times more return from the same expenditure in rail infrastructure investment in the U.S. than you do in Canada.

As a publicly traded company you need to pay dividends to your shareholders, are you going to invest in the U.S., where the opportunity and return is greater, or in Canada? Canadian Class one railways invest more in the U.S. than in Canada. Out west, CP is going to spend \$350 million dollars on the western gateway - in the U.S. they are proposing to spend billions just in Wyoming. Simply put, investment goes to the area of greatest return.

To strengthen the Ontario-Québec Gateway rail corridor, the investment climate must change to provide for a competitive return on Canadian investment. Perhaps incentives should be considered.

Can a short line rail company add to the supply? Yes, they can facilitate access to the rail system. They can design and operate intermodal rail yards and even get financing for such, but they can not afford to go through the land approval process. Land approvals can take many years and local opposition will be encountered.

The land approval process is a black and white issue, you either win or lose. But if your approval is declined there is no return on your expenditures. The challenge for a short line railway is that the expenditure requirements are so great that a refusal could bankrupt the company.

Eric Allard

Vice President, International Air Freight, Schenker of Canada Ltd.

All the freight that is picked up in the U.S. will go on to Continental Europe transiting through Pearson International Airport. It took 1.5 years to put our strategy together, explaining that because of proximity, they have an opportunity to do business with Canada. Gateway consolidation for this Corridor is crucial. It is amazing that the American people don't realize that their freight products from Washington or Iowa go through Toledo-Toronto onto the European market.

Provincial barriers and different regulations from province to province are a big issue! It is important for this Corridor that we stabilize policies from Halifax to Southwestern Ontario. Halifax is an overnight stop to Toronto. How do we link the airports in that market?

We established a Gateway in Calgary because they have the international carriers, as does Toronto. Montréal has Air France and KLM, whereas in Toronto there are 48 international flights and air freight with greater capacity. Thus I have to come to Toronto, whether I like it or not. So please, remove interprovincial barriers, align regulations and stabilize policies, as this is crucial for the success of the Gateway corridor.

Canadian Class one railways invest more in the U.S. than in Canada. Out west, CP is going to spend \$350 million dollars on the western gateway - in the U.S. they are proposing to spend billions just in Wyoming. Simply put, investment goes to the area of greatest return.

TOM SAGASKIE

London is a hub for food processing and is a central point in the agricultural heartland of Southwestern Ontario. Effective road and rail linkages are in place to have London serve as a major trans-shipment point for agricultural products.

JEFF FIELDING

Provincial barriers and different regulations from province to province are a big issue! It is important for this Corridor that we stabilize policies from Halifax to Southwestern Ontario. Halifax is an overnight stop to Toronto. How do we link the airports in that market?

ERIC ALLARD

NORTH AMERICAN COMPETITIVENESS

SOME REMARKS

The trade relationship and competitiveness is no longer East-West, it is North-South. It is critical for policy makers at the regional and provincial level, on both sides of the border, to demonstrate leadership by meeting and beginning a discussion to ensure that North America remains competitive in a globalized world.

There is an enormous amount going on in terms of corridor development in North/South cities. However, there is presently no agency who can claim responsibility for monitoring progress, compiling data, conducting case studies, bringing people together and learning from experience. We have a number of border studies and institutions from Maine to Washington, but until very recently, there has been no collaboration.

Statistics overestimate our trade with the United States since they only measure the first destination for goods being exported from Canada and the final source when goods are imported in Canada. To the extent that goods are being processed through the United States before sent abroad or into Canada, the origin of trade is not with the U.S. but with other countries.

Policymakers in Ontario, Québec and New York State require a new framework for re-thinking security, transportation and competitiveness issues that impact them collectively. They require standardized data to properly frame issues, as well as neutral binational forums for bringing them together. In the end, to reach new levels of competitiveness, provincial and state policymakers need policy tools equipped with a North American lens. As well, there are research groups in Canada and the U.S., notably in universities, beginning to collaborate; but they are lacking adequate funding for research.

Recommendations

- Canada must be nimble and agile if it is to ensure its transportation and communication infrastructure can meet the needs of businesses trading with our most important partners.
- Canadians must be educated on issues of North American competitiveness, trade, transportation and security in order to build a constituency for change among Canadians and Americans.
- Establish an agency that will coordinate policy across multiple jurisdictions and departments within Canada (provincial, municipal) and outside Canada - U.S. infrastructure, customs and security agencies.
- Free Trade Agreements are essential in accessing markets for distributors and manufacturers worldwide. We need to get this back on the agenda. In order to leverage Canada-U.S. trade flows and to benefit from the emerging markets such as China and India, policies should be established and results measured to maximize the free flow of goods, services and capital.
- The Federal government should consider the concept of a Free Trade Zone, as in Rotterdam, the Netherlands.

BORDER ISSUES

SOME REMARKS

The U.S. will remain the main Canadian partner for exports and imports but will decline in importance if something is not done to improve border issues, infrastructure and especially regulatory harmonization.

There are two barriers right now to having an integrated system: 1) border security and 2) regulation between the two countries; all have to be looked at. Post-9/11 security measures have hampered trade and risk is becoming an unmanageable burden.

In Ontario, carriers continue to invest in border security programs, actively participate in open communication with U.S. and Canadian Customs, implement best practices for compliance and pursue open dialogue with Customs and customs brokers to improve transport efficiencies. Thanks to continued outreach and communication between trading partners there are an increasing number of importers/shippers participating in C-TPAT¹ and PIP². Shippers are starting to recognize the benefit to selecting FAST³ approved carriers.

¹ Customs Trade Partnership Against Terrorism, C-TPAT (U.S. requirement)

² Partnership in Protection, PIP (Canadian initiative)

³ Free and Secure Trade, FAST (Joint U.S. and Canada initiative)

The Ontario-Québec markets provide opportunities for U.S. business to access millions of Canadian consumers and Canadian business access to U.S. markets is ten times more important to us. Thus, a frictionless border is very much in Canada's and, to a lesser extent, U.S. interest. With U.S. concerns over security, the Canada-U.S. border is becoming more costly for transactions, despite efforts by both parties to improve trade.

Recommendations

- Canada's National Policy Framework for Strategic Gateways and Trade Corridors should focus on congestion problems at border crossings and rail congestion in Chicago.
- Consider what imports and exports go over the facilities at border crossings and identify actual or potential infrastructure bottlenecks.
- Invest in appropriate infrastructure to facilitate the smooth flow of trade throughout the whole regional corridor.
- Security must be moved away from the U.S.-Canada border. Canada should take the lead to create a North American security perimeter. Closing down borders and ports is not a responsible solution.
- Simplify customs processes between Mexico, USA and Canada.

GOVERNMENT POLICY

SOME REMARKS

The Québec-Ontario corridor is great, but we also need a national vision and common goal to put the infrastructure in place.

Legislative differences between provinces are huge and that's a big problem; we are one country trying to succeed.

Barriers and different regulation from province to province is a big issue! It is important for this Corridor to stabilize some of these policies all the way from Halifax to Southwestern Ontario.

It is difficult for a mobile industry like trucking to keep up with variation and changes in rules and regulations, even across provinces.

Shippers have to deal with an uneven playing field as to cabotage rules in the trucking industry.

Hidden barriers such as interprovincial water standards and complexities related to an environmental industry have a significant impact. We need to get smarter as an industry. Hopeless, irrelevant, non-helpful regulation is what we're faced with.

Recommendations

- Motor carriers need harmonized regulation between provinces and authorization to move more doubles and better utilize the number of hours allowed for drivers, reduce waiting times for deliveries, etc. National reciprocity weight agreements could assist the industry in maximizing payloads and reducing costs across Canada.
- Streamline and consolidate inter-provincial freight carrier rules; transportation time is suffering due to bureaucratic delays caused by different provincial rules when crossing from one province to the other.
- Provide more support for small-medium size businesses to assist them in handling all the regulatory requirements.

REGIONS, RURAL AREAS, URBAN CENTRES

SOME REMARKS

Canada's strategic prosperity will be fuelled by industries located in regions of Canada and not just in the larger cities and areas. Transportation to regions and beyond the traditional gateways has never been more important than today.

Transportation access to regions beyond traditional hubs is integral to overall regional success! It will increase direct services and linkages between North America and the European Union, continue connectivity to main hubs, and facilitate the concept of a Free Trade Zone.

We know that there is a structural difference in the economy between urban centers and rural areas. We're looking at national markets, where 45% of the market might be in six urban regions, but what about the other 55%?

While the focus is on major nodes and arteries in the Ontario-Québec corridor, there is a real problem with the access to multimodal services in regions. Manufacturing facilities are still located, in many cases, in regions with limited effective access to multimodal hubs.

Recommendations

- We need a strategy for the Continental Gateway between Ontario and Québec that not only recognizes the significance of opportunities of existing transportation systems, but also recognizes subsystems, air, road, rail that can complement the main system.
- Transport Canada needs to recognize that Canada's regions require better connectivity beyond traditional hubs.
- If regions are to benefit from Canada's Blue Sky policy, we need to measure impacts on regional airports and review specific requirements to attract Non-Star Alliance airline carriers, bring in U.S. flights and continue those flights onto other parts of Canada. Transport Canada needs to recognize the economic development initiative of regional airports.

TRANSPORTATION SERVICES

SOME REMARKS

We should consider the provision of transportation and related services worldwide through an intermodal system combining ship, plane, truck, or train transportation in future scenarios in addressing increasing growth in world traffic.

There is a lack of West coast access to international break bulk service.⁴ And this problem worsens with the current evolution in the use of sea containers. Too much focus is being placed on the Prince Rupert facilities.

Recommendations

- Develop dedicated rail lines for freight transportation; many passenger trains share their rail lines with cargo trains, which cause scheduling headaches when trying to satisfy both environments.
- Develop a cargo port/route to Asia in Western Canada; at the moment there is no route to ship large products, such as railway cars, to Western Canada to reach Asia. From Eastern Canada, cargo has to go through Panama.

HIGH-SPEED RAIL

A) A STUDENT'S PERSPECTIVE

The Ontario-Québec High-Speed Rail Link - One Day Living Zone

Eric Kung, MBA 2008, The Richard Ivey School of Business.

Over many decades infrastructure projects have been discussed, mapped out, studied, without a long-term plan, without decisions, without action. Highway 407 was part of a 1960s Toronto urban plan. How could it take almost 40 years to build a 24 km three lane expressway? The high-speed rail for the Québec-Windsor corridor has been on the agenda, the topic of roundtables and government sponsored research sessions for decades, while Korea and Taiwan completed their national high-speed rail network.

China is investing 200 billion U.S. dollars to complete high-speed rail by 2010, Spain invested 100 billion U.S. dollars to build 10,000 km of dedicated high-speed rail tracks, from Seville to Barcelona, via Madrid in 2008. When you are falling behind in decision making, you know you have serious problems. Transportation is not a stand alone issue, but part of a national development strategy, renaissance for outlying cities, increase of personal living quality and sustainable development for the economy.

⁴ Break bulk services: using a conventional ship that loads bundles, pallets or pieces of merchandises that are loaded in a ship usually using ship or shore cranes.

B) SOME PARTICIPANTS' REMARKS

Some participants suggest the establishment of a high-speed railway along the corridor. Here are some of the arguments in favour of such a project:

- Predictions are that the operating cost would drop dramatically;
- Land value along the corridor would immediately increase;
- Regional planning would occur because there would be transportation backup;
- Regions could aggregate and specialize, so there would be a strategic advantage to volume and size of projects;
- Federal and provincial revenues would grow, along with a significant reduction in cost and energy.

HOWEVER

- Try to imagine the political turmoil just to implement a high-speed railway along that corridor;
- Consider the narrow interests in trucking, rail, marine and air;
- Consider corporate interest;
- Consider conflicting interests between provinces and municipalities, who could collaborate on regional land use;
- Consider the policy/political side, it's the failure of government to be the catalyst to deliver;
- Consider that by mobilizing private sector capital, Singapore and Madrid have surpassed Toronto in the last ten years in building the level of infrastructure required.

Recommendations

- Establish a process to evaluate who would be part of the High-Speed (HS) rail.
- As part of a plan of action for the Ontario-Québec high-speed rail economic corridor deliberations, the following topics should be considered:
 - *Quality of life enhancements; more and better jobs, more living space for families, more time with families, affordable housing, more time for healthy activities;*
 - *"One Day Living Zone"- refers to all places where people can reside and have reliable means to commute to work within the zone. Outlying cities within 250 km of Toronto along the rail line can reduce travel time to one hour each way;*
 - *Key challenges of urbanization- eliminates the pressure of mounting population within major cities, less use of private vehicles, more land and living space for families, smaller cities grow again;*
 - *Economic Development: removes passenger trains from current tracks, leaving them dedicated to freight traffic (in Korea, Freight capacity grew from 820,000 tons to 3million tons);*
 - *Showcase Canadian technology from high-speed rail engines to rolling stock to software systems control;*
 - *Funding models: many best practices of 3Ps, integrated projects with real estate development.*

INFRASTRUCTURE**SOME REMARKS**

Infrastructure is very important to overall support of e-commerce. We need better and faster modes of transportation in order to expedite our products to our customers. This would include (but not be limited to) better port and rail infrastructure, roads and border clearances.

A weak infrastructure network has four areas of impact: competitiveness, productivity, traffic congestion (which has a similar impact on productivity) and creating potential safety problems. Governments are responding by implementing partnership models to deliver infrastructure projects sooner, on time, and on budget. Partnership models alone are not a panacea. Rather, they are one tool governments have at their disposal to clearly demonstrate they are competitive and ready for Foreign Direct Investment (FDI).

When you get into the port of Vancouver, the problem is not the port so much as it is a problem with rail capacity. It is very difficult, in peak season, to offload from ship to rail, when bringing cargo into the port of Vancouver. There is just not enough rail-cargo capacity to handle the peaks and valleys that imports go through; therefore, some cargo will go into storage, be held and prioritized, and eventually go to rail. When you are trying to go ship to rail, that's when the bottleneck starts to occur.

Recommendations

- North American national governments must plan for a North American transportation system. Discussions and planning for transportation infrastructure should be intergovernmental, taking into account the reality of our deeply integrated economic system. Canada's National Policy Framework for Strategic Gateways and Trade Corridors recognizes the need for a continental approach but does not provide one.⁵
- Identify the geographic scope of major trade corridors, road/rail/air/port capacity limits, and congestion levels (actual and projected).
- Evaluate the economic and social benefits, as well as costs of potential infrastructure projects.
- Plan for the location of railroads. Environmental pressures may increase the shift of trade from highways to rail, but then, the question is where, in an optimal sense, would railroads be located?
- Address solutions to traffic congestion and network delays. For example, a tractor-trailer chemical spill virtually paralyzed the island of Montréal causing injury, contributing to the high cost of road and bridge repair, as well as reduction of productivity and competitiveness.
- Work with the railways to address the capacity issue.
- Identify financing options (public and private funding, pricing strategies). Reference was made to John A. Macdonald and the railway to illustrate that private investment is not a new trend in encouraging economic development.
- Identify strategic priorities for infrastructure investment
 - (1) *Geographic location;*
 - (2) *Types or modes of infrastructure, including intermodal options.*
- Make every effort to reduce the tax burden in Canada. Property taxes are the largest in the OECD. Overtaxing and overcharging utilities on already developed land is an equation that drives away smart investors, and it is not sustainable.

PLANNING

SOME REMARKS

In planning transportation infrastructure and transportation corridors, the impacts of fuel costs, stricter environmental regulations, economic growth, global conflict and technological innovation - not just traffic volume - should be considered in order to provide a solid foundation for future planning.

The Erie Canal was referred to as a developmental piece, in terms of economic growth, in the region and the City of New York. One might well ask the question, how can Canada's Corridor stimulate regional development of the areas through which it travels - that is, we're looking not just at engineering issues, rather, when we think of the Corridor, we look at regional economic development sets of issues.

The Municipalité Régionale de Comté de Vaudreuil-Soulanges close to Montréal is a success story. Through research and consultation with business, communities and governments, a vision, a mission and objective were defined, resulting in the development of a zone of excellence for material handling and intermodal transportation, as well as the creation of more than two thousand jobs.

⁵ For more information on Canada's National Policy Framework for Strategic Gateways and Trade Corridors visit:
<http://www.tc.gc.ca/GatewayConnects/NationalPolicyFramework/nationalpolicy.html>

Recommendations

- Create a market driven action plan that will contribute to the successful development of new trade corridors and the creation of value added multimodal logistics centres.
- Create a positive, constructive workshop focusing on the MOU⁶ that would provide an opportunity to work with municipal officials who are concerned about and interested in transportation issues as they relate to the Corridor. Consider various venues over time of coordinating municipal, provincial and federal representatives, as well as business, academia and students, where valued input can be considered, and where governments can make contact with potential contributors to the formulation of transport policy and regulatory matters, as needed and/or required.
- The Metrolinx regional transportation plan must do more than the typical transportation master plan. It needs to go beyond simply projecting past trends forward into the future, with a shopping list of road widening, service improvements and new infrastructure projects. It needs to link all elements of transportation: roads and transit; freight and passengers; infrastructure and behavioral change; both public sector and private sector investment. It needs to link communities and to link modes of transportation. The Metrolinx plan should be bold, imaginative and long-term in its outlook, its vision and its solutions.
- The Metrolinx plan should aim to achieve objectives for the entire metropolitan area, over a long planning horizon; not just a collection of isolated and unconnected local infrastructure projects. It needs to reach a mutually agreed reconciliation of competing projects from a variety of jurisdictions and interests across the metropolitan area of Greater Toronto and Hamilton.

ENVIRONMENTAL ISSUES

SOME REMARKS

The e-commerce business will continue to create many smaller orders and we must think of ways and means of addressing all this packaging that is being circulated to customers' homes. We need to think about recycling containers that can be reused by customers or returned to us. We need to use less packaging and use less packaging materials. Also, we need to consider the carbon footprint that all this movement is generating and look at ways to seriously address these issues.

Transportation activities give rise to several environmental concerns. Air contamination is particularly important in large urban areas. Transportation is responsible for about 30 percent of greenhouse gas emissions in Canada. Transportation networks also allow people to live farther from regional centres, thereby leading to greater urban sprawl. Even subsidized urban transit can contribute to urban sprawl especially when municipalities discourage housing density.

Motor carriers, like Robert Transport, have developed a new type of trailer in order to reduce fuel consumption. There is also a new engine that is more costly and requires more fuel, but on the other hand, it is much more environmentally friendly. The recent shift to large tires has assisted carriers in reducing fuel costs.

Multimodal integration is great, but air is the most attractive and reasonable mode for long-distance travel; carbon tax will have a very unfortunate and unintended consequence for regional airports and our economy.

Recommendations

- Apply a market approach to gateway sustainability when considering environmental regulations. International legislation suggests that the environment has become a factor of change in terms of obligations, responsibilities and competitiveness. Research findings show that best practices of sustainable development have already been integrated as part of everyday business.
- Develop a framework for understanding green logistics in order to capitalize on some of the market approaches to gateway sustainability. There is evidence of complex systems of differential charging for environmental purposes that address operations of the full transport chain.
- Environmental costs should be priced into transportation services as would other activities. An environmental charge equal to the social cost of environmental damage is appropriate to consider. It would encourage better use of resources and reduce congestion costs, especially tolling roads and highways.

⁶ To see the Memorandum of Understanding (MOU) please visit: <http://www.tc.gc.ca/mediaroom/releases/nat/2007/07-h141e.htm>

- Planners should be mindful of international competitiveness. If major trading partners do not assess environmental charges, Canadian businesses could be offside unless other policies are adopted to keep them competitive. In this regard, recent corporate tax reductions in Canada make it easier to shift taxes from investment to consumption, including taxes and fees related to the use of the environment.
- Apply a balanced approach to industrial development in order to protect agricultural land.
- Ontario and Québec should support new truck tire legislation to reduce fuel consumption by motor carriers.
- Transport Canada should review the impact of carbon tax on transportation when discussing this gateway trade corridor. In British Columbia, regional carriers and communities are hardest hit by the recent announcement of the carbon tax.
- Prepare for environmentally friendly freight transportation. Freight transportation by train is much more environmentally friendly than by truck. For example, if European freight continues to be transported by truck, greenhouse gas emissions will increase by over 40% between 2000 and 2015. However, if only 40% of freight was carried by rail instead there would be NO increase at all.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS) TECHNOLOGY

SOME REMARKS

With respect to the Ontario-Québec gateway project, the use of ITS technology (including GPS⁷) could provide data on arriving containers by ship, enhance planning of port operations (including customs), facilitate the scheduling of priority containers to be moved out of ports to customers, allow for tight scheduling of trucks in and out of ports and adjustment of rail operations, and allow service guarantees to customers. Tight coordination of highway management, fleet management, and scheduling at border crossings would thus be facilitated. To be successful, data must flow between participants who must be “integrated”. Each participant must be able to transform this data into meaningful information and profitable decisions. The whole system should perform better as a result of implementing ITS technology.

Science-based information services can provide weather and climate information for now to decades ahead. These forecasts can be delivered using new communication technologies. While weather forecasts are a federal responsibility, smog, flood, and water levels forecasts are, for example, provincial responsibilities.

Recommendations

- There is a need for ITS technology policy boldness, integration in policies and action plans, and for increased R&D efforts at all levels.
- To be fully effective and efficient, science-based information systems and services must be coordinated through an integrated consortium of federal, provincial and municipal agencies, including a partnership with the U.S. This could include agencies of the Meteorological Service of Canada, Geological Survey of Canada, Transport Canada, the Institute for Catastrophic Loss Reduction (ICLR), provincial and municipal counterparts, and others.
- Improved technology and resources should be provided by Canadian Border Services Agency (CBSA) and Transport Canada for Canada Customs.
- The development through academic research programs and implementation of monitoring technologies should be encouraged so as to provide advanced warning of environmental events affecting major transportation services and facilities.

⁷ GPS - Global Positioning Systems

STATISTICAL DATA

SOME REMARKS

We may find more complete data sets using U.S. data (often available without charge), than when we rely solely on Statistics Canada. Data required for transportation research are often either not collected or made available by government.⁸

Canadian statistics present some series that were estimated in terms of value of trade, and some series in terms of volume of trade. It is important to know the difficulty of trying to reconcile data sets, some of which reveal trade in value and some trade in volume.

Recommendations

- Improve the public availability of statistical data on trade flows, including the origin, route and destination of goods and services, and by industry, within Canada and with the U.S., on existing infrastructure stocks, physical capacities and utilization rates. There should be a North American integrated perspective.

HUMAN RESOURCES - LABOUR AND SKILLS AVAILABILITY

SOME REMARKS

The record setting levels of construction activity in the West have brought into focus the seriousness and systemic nature of the labour and skills shortage problem we are facing today and in the future.

To varying degrees, other provinces in Western Canada have experienced similar phenomena, with the situation arguably even more acute in Alberta.

The impact of the lack of labour and skills is that economic growth is constrained because contractors are short of workers (quantity) and those they have are on average less productive than in the past (quality).

Between 2010 and 2055 there will be a tremendous divergence between the projected employment trend, demand for labour, and the trends in projected labour force supply.

There are two aspects to labour supply; one is quantity, how big your labour force is; and the second is quality, how productive your labour force is. In British Columbia, and Canada, we are short on both quantity and quality.

While in "all industries" labour productivity in Canada has generally increased over the last couple of decades (though we are significantly behind our major competitors on this measure), construction labour productivity has been dropping.

Recommendations

- Less Regulation: Government imposed apprenticeship ratios limit the number of apprentice trainees that a contractor can hire. Recognizing the upcoming demographic challenge of older skilled workers leaving the workforce, and the inability to grow the workforce, British Columbia eliminated apprenticeship ratios. Apprenticeship programs doubled in less than four years.
- True Labour Mobility Within Canada: Mutual recognition of credentials across Canada must be achieved. Significant differences exist between the provinces with respect to trades credentialing and regulation. Provincial parochialism exists with respect to these issues, resulting in barriers to mobility for construction workers within Canada.
- Real Immigration Reform - More and Better: Governments should be proactive recruiters and not reactive gatekeepers. We should benchmark our country against a progressive competitor such as Australia. Our immigration policies are outdated and not strongly connected to the economic needs of the country. Of the total 250,000 immigrants to Canada in 2006, less than 10,000 are trades workers, and less than 1% qualified for immigration based on their trades qualifications. This statistic highlights how out of sync immigration policy is with the needs of the country. Some federal and provincial programs have been deemed so inefficient that new pilots had to be launched. The need for their creation is a damning indictment of our overall immigration and temporary work permit systems.

⁸ Compared to U.S. statistical agencies, such as the Bureau of Economic Analysis and Bureau of Transportation Statistics, Statscan charges for much of its data, the equivalent of which is publicly available in the U.S. By making more data on a wide variety of issues, topics and industries freely available, Statscan would enable the private and public sectors to improve the quality of their decision-making and planning.
(Guy Holburn, Associate Professor, The Richard Ivey School of Business)

FINANCE**SOME REMARKS**

In the 2007 budget, the Government of Canada committed to fund infrastructure improvements to support gateways and corridors. Furthermore, they announced the establishment of a 3P office thus placing greater emphasis on 3P procurement of large scale infrastructure projects, transportation, border crossings and gateways.

The terms "Public-Private Partnership", "PPP", "P3", "3P's" are used interchangeably around the world. Exceptions are Alternate Finance and Procurement (AFP), Government of Ontario, and Performance Based Infrastructure (PBI), Government of California.

3P innovation and leadership has primarily emerged at the provincial level in Canada, Partnerships B.C. being the longest standing dedicated 3P office. Infrastructure Ontario, created three years ago, is starting to see clients from around the world. Bidders like the Ontario model because it is faster and more efficient than in the United Kingdom. The organization is now getting international acceptance and involvement, which improves its productivity and competitiveness. AFPs are appropriately allocating risk between the public and private sector to get projects done to standards. It has nothing to do with privatization.

Private sector investors are best equipped to accept three key risks in infrastructure projects: construction risk, operations risk, and capital maintenance risk. Designing projects to transfer these risks to the private sector enables governments to be confident that projects will be delivered on time, on budget, and will be maintained throughout the life of the contract.

It is now well established that governments, feeling deficit constrained, have been looking at public-private partnerships as a means for raising capital that would involve some government regulation of prices and other controls. Several important issues need to be dealt with as described in the recommendations that follow.

Debt financing is used optimally for infrastructure spending as it helps spread the costs from infrastructure spending across populations benefiting from such spending. Even in Alberta, where a zero debt target has been achieved, a different view has been taken to use some debt for capital funding.

User fees have been used to some extent to finance infrastructure (rail charges, airport fees and some highway tolls) but, by and large, the amounts raised are considerably less than the cost of financing infrastructure. Gasoline taxes have arguably been used as surrogate user-pay related charges for highways and roads, although trucks typically pay less than the damages they cause to pavement.

Recommendations**(i) PUBLIC-PRIVATE PARTNERSHIPS**

- Manage cost by combining capital, operating and maintenance, and life cycle costs.
- Articulate penalties and create the right incentives to protect the public interest. For AFP projects, the private partner assumes the risk of cost overruns and late delivery- not the taxpayer.
- Ensure that the risk transfer to the private sector is effective by making accurate comparisons of the net benefits and the cost of all factors when negotiating a P3, measuring value for money.
- Enhance accountability by making P3 projects subject to publicly available value for money assessments at three critical stages: at the point of selecting an appropriate procurement methodology; at the point of assessing 3P bids; and at the appropriate junctures during the concessionary contract.
- Engage experts to assess the value for money generated by a P3 that rests on clean and accountable incentives, and on an optimal risk allocation.
- Engage in contracting experts when negotiating 3Ps. This is essential for governments with limited experiences and leads to inappropriate risk transfers and opportunistic behaviour by private sector bidders and partners.

(ii) PROCESS

- Plan projects to include strong governance and cost predictability.
- Ensure a fair and transparent Request for Proposal process.
- Clearly outline the objectives that the government is trying to achieve with each project. By providing private sector investors with clear performance targets and outcomes, investors can be more precise in quantifying the risks and thereby provide Government with better pricing for the risks.

- Coordinate efforts between the four main components of a project: design, build, finance and maintenance. When putting a proposal together, each member of the team should be an expert in their field, understanding their roles and responsibilities, as individuals and as a team.
- Engage expertise at the government table and the right levers of accountability to help enhance the legitimacy of 3Ps as a vehicle for delivering public and quasi-public goods and services, and to monitor the risk allocation through out the project term.
- Carefully include crafted service and quality standards in a concessionary 3P contract, combined with effective oversight to provide the public sector with the power to clearly define and control the levels of quality and service required of its private sector partners. Penalty clauses and in the extreme case, the right to terminate the contract, can be used by the public sector as a discipline on service quality.
- In developing the Metrolinx plan and its associated investment strategy and capital financing plan, Metrolinx must go beyond simply speaking to transportation experts and traditional transportation stakeholders. The consultation process must involve extensive engagement of political leadership at all levels, as well as the traveling public and their communities, all of whom have an active and legitimate interest in the future impact of transportation investments and programs. It should also involve new elements, such as international “best practices”, alternative methods of financing and procurement, and technological innovation.
- In developing modern public sector transportation plans, like the Metrolinx plan, it is important to engage a range of both traditional and non-traditional stakeholders. The private sector and the general public have a significant role to play that is too often neither seriously sought nor heard. They should not be left to the end, to react (often unfavorably) to the specific plans and projects, and their financing. They may not develop the plans, but they can inspire new directions, challenge conventional and traditional approaches, offer suggestions about better implementation and financing, and validate the project and program proposals.

(iii) WORKING TOGETHER

- As in all areas of public and private service-delivery, the focus needs to be on the clients and the customers, not on the providers, the funders and their institutional allies. New ideas and approaches are often best identified and advanced through research projects and diverse, multi-stakeholder forums, such as those sponsored or undertaken by the Lawrence Centre at the Richard Ivey School of Business, University of Western Ontario.
- Take advantage of the precedent transactions that have been completed in Canada. Many of the Provinces have well developed PPP agencies that have completed or are in the process of completing infrastructure transactions. Since investors are familiar with how these transactions have been structured, it would be very helpful for the Government of Canada, wherever possible, to structure its transactions to be consistent with existing precedents.
- If diverse political leadership, across a range of municipalities and at all three orders of government can agree on a common agenda, that is a powerful and sustainable platform for future investment and phased program implementation. Spending time with political leaders at the development stage can be helpful in discussing specific projects and targeted timelines. When Municipal, Provincial and Federal political leadership agree on a common approach, it tends to commit them and their officials to move forward cooperatively over a longer term. It also reduces the inevitable tendency for governments to relent in their commitments over time as new issues arise, new leaders emerge, fiscal conditions change, or as episodic opposition develops.
- For example, in metropolitan Madrid, political leaders were directly included in the planning and shaping of the agenda for the transportation plan and program. Among other things, the implementation agenda was adjusted to reflect the timetables of their political mandates. Over time, the political and public focus was shifted from the North American tendency to announce the intention to undertake one-off, often isolated projects, which frequently run over-budget or over-schedule or may not even proceed. In Madrid, the political and public focus was shifted to routinely announcing the completion of projects on time, under budget, within the mandate of the respective governments, and as part of an on-going predictable, integrated program of project delivery.
- The Metrolinx plan should respond to more than just transportation needs and demands. It should demonstrate an ability to meet economic, environmental, energy and quality of life objectives (air quality and fitness; customer service, sustainable transportation “choices” and better traveller information; public safety; more time with family and community). It should meet Provincial and Federal objectives for Canada’s largest metropolitan region.

(i) Jack Mintz

PALMER CHAIR IN PUBLIC POLICY School of Public Policy, University of Calgary
THE QUÉBEC-WINDSOR CORRIDOR: BLUE-SKY ISSUES TO CONSIDER

It is very easy to focus on a better transportation network in Canada's populous heartland. In my remarks, I want to take a more blue-sky approach, considering general aspects related to infrastructure development, regardless of the location in Canada. It is this general approach that helps elucidate the critical questions that should be considered.

Below, I will cover two topics:

- *The meaning and importance of infrastructure*
- *Obstacles and some solutions in developing public-owned infrastructure*

1. MEANING AND IMPORTANCE OF INFRASTRUCTURE

When thinking about the Québec-Windsor corridor, the focus is on transportation networks, including ports, bridges, highways, rail, pipelines, electrical grid and broadband. Planners have become acutely aware that it is critical to develop points at which the different modes of transportation can meet so that its customers - shippers, travelers and others - are able to move easily across a geographic area.

In today's global economy, transportation and communication infrastructures are key. Global supply chains lead to the assembly of parts in one location that are brought from other locations where components are produced. Communication enables businesses to manage their resources at the global level with relatively good speed. Thus, for a country to be part of the global supply chain and produce some of the product's value-added, infrastructure needs are critical.

Our trade with the United States is certainly intensive and extensive. The Ontario-Québec markets provide opportunities for US business to access millions of Canadian consumers and Canadian business access to US markets is ten times more important to us. Thus, a frictionless border is very much in Canada's and, to a lesser extent, US interest. With US concerns over security, the Canada-US border is becoming more costly for transactions despite efforts by both parties to improve trade.

While Canada-US trade is critical, it must be remembered that world trade patterns are changing with the growth of Asia as both a supplier and demander for products. Canada can be nimble and agile if it makes sure that its transportation and communication infrastructure is able to meet the needs of businesses trading with our most important partners. Statistics overestimate our trade with the United States since they only measure the first destination for goods being exported from Canada and the final source when goods are imported into Canada. To the extent that goods are being processed through the United States before sent abroad or into Canada, the origin of trade is not with the US but with other countries. This by no means suggests that US is not our major trading partner but today, Canadian businesses have to think of the importance of trade linkages going beyond North America.

Many Canadian businesses have been increasing their reach beyond the US. Some, such as Magna, are diversifying markets for their goods and services in Asia and Europe.

Given these issues, infrastructure is clearly important not just in the Canadian-US context but also with other trading partners. While it easy to define what we mean by infrastructure, it is not so easy to define a "deficit", which is presumably the difference between optimal spending and actual spending on infrastructure. We have really no idea what the infrastructure deficit entails since it is very hard to determine the "optimal" amount of infrastructure spending. Clearly, it is not optimal to spend so much money that transportation networks are little congested because businesses pay such high fees or taxes that they decide to locate production in other countries. On the other hand, little infrastructure means that Canadian customers and businesses will be severely restricted in what they can transport due to congestion, thereby discouraging their willingness to operate from Canada in the global supply chain. A balanced approach is required to ensure that net benefits from infrastructure spending are optimized.

2. PROBLEMS IN DEVELOPING INFRASTRUCTURE

Even if net benefits from infrastructure spending can be proven, several policy obstacles have to be dealt with to ensure that planning achieves its aims. Solutions should be considered.

Financing Infrastructure

The first is the difficulty of creating incentives for governments to spend money on infrastructure that benefits populations beyond the immediate political cycle. As the World Bank has found in the 1990s, fiscal constraints on governments (balanced budgets, fixed deficits to GDP ratios, etc.) can distort political decisions over short and long-run policies. Given the limits on spending in any one year, governments become reluctant to spend money on large capital projects if it means cutting back social policies that have a more immediate benefit to voters.

While capital budgeting can help in this context as capital spending is no longer expensed and charged to the current budget but depreciated over the asset life, the concern is that governments could avoid fiscal rules by putting seemingly-capital items in the capital account to avoid limitations to spending. Debt financing might become the sole source of capital spending leading to rising government debt/GDP ratios. For these reasons, some governments have introduced two fiscal rules - balanced operating budgets and debt/GDP limitations - to reduce distortions in political decision-making.

In Canada, governments have recently avoided debt financing for capital infrastructure projects. The concern over Canada's immense indebtedness by 1994 led federal and provincial government to reduce their reliance on debt financing in order to reduce large unfunded liabilities for future generations. While the anathema towards debt financing has been appropriate, debt financing should be used optimally for infrastructure spending as it helps spread the costs from infrastructure spending across populations benefiting from such spending. Likely, a rule to finance infrastructure by 100 percent debt as opposed to tax financing is inappropriate as it might encourage slackness in managing projects since existing taxpayers would not bear the brunt of bad decisions. However, some debt financing should be used to fund infrastructure. Even in Alberta, where a zero debt target has been achieved, a different view has been taken to use some debt for capital funding.

Pricing of Services

User fees have been used to some extent to finance infrastructure (rail charges, airport fees and some highway tolls) but, by and large, the amounts raised are considerably less than the cost of financing infrastructure. Gasoline taxes have arguably been used as surrogate user-pay related charges for highways and roads, although trucks typically pay less than the damages they cause to pavement.

Pricing for use of infrastructure provides some important benefits. It helps reduce congestion costs on transportation networks. It helps determine the willingness on part of consumers to pay for infrastructure. It improves management of resources by allocating resources to where the price net of costs is highest.

User fees do raise issues of equity since some consumers may be less able to pay for the services - and rural dwellers may particularly object to paying for infrastructure costs on the basis of fairness. Nonetheless, governments do have the capability of providing offsets such as tax credits to lessen burdens for low-income Canadians.

Public-private partnerships

Although user fees could be used for public-owned transportation, another approach is to seek greater use of privatization in the supply of services. Railway is already privatized to a large extent except for passenger services. So is the airline industry except for airports that are now operated by municipal non-profit entities. Urban transit and highways, roads and bridges, are generally public-operated in Canada. In other countries such as the UK and Hong Kong, privatized operations tend to be more frequently used.

The advantages of privatization is that it not only leads to a better allocation of resources used for transportation modes based on pricing principles but also greater cohesion between operational and capital planning. However, Canadians seem to be more distrustful of privatization - one recent German study had shown that Canadian privatization receipts as a share of total revenues in the past 20 years were much less than that found in Europe.

However, governments, feeling deficit-constrained, have been looking at public-private partnerships as a means of raising capital to fund large-scale projects that would involve some government regulation of prices and other controls. While the UK and British Columbia have shown that these contracts can work reasonably well, several important issues need to be dealt with to ensure the private-public partnerships can work reasonably well.

First, there must be a proper sharing of rewards and risks. Typically, governments are uncomfortable with high returns earned by private partners (when events happen to the benefit of the project) but private owners are afraid of accepting risks without compensation. Thus, when governments put limits on profits, private partners look for guarantees. This inappropriate risk and return could lead to excessive costs being incurred as Alberta experienced with the Swan Hills hazardous treatment centre.

Second, private producers may seek opportunities to reduce costs, including outsourcing labour, thereby running afoul of labour unions. Contracts are typically honoured and opportunities for restructuring will be achieved only if compensation is given to those affected. It is an issue, however, that must be dealt with.

Third, concerns might be raised over safety and other public objectives. Any partnership would need to deal with these issues although there is no reason to believe that public enterprises have a better record in dealing with these social concerns.

Finally, many provincial governments do not wish to privatize, even in part, operations since the federal government would receive tax revenues that reduces the value of the asset or business transferred to the private producer. As one remedy, the federal government could provide a grant to the province equal to tax revenues gained from the privatization. This approach is similar to the recent policy adopted by the federal government to encourage the elimination of capital taxes in Canada.

Environmental Challenges

Transportation activities give rise to several environmental concerns. Air contamination is particularly important in large urban areas. Transportation is responsible for about 30 percent of greenhouse gas emissions in Canada. Transportation networks also allow people to live farther from regional centres, thereby leading to greater urban sprawl. Even subsidized urban transit can contribute to urban sprawl especially when municipalities discourage housing density.

Environmental costs should be priced into transportation services as would other activities. An environmental charge equal to the social cost of environmental damage is appropriate to consider. It would encourage better use of resources and reduce congestion costs especially tolling roads and highways.

However, planners should be mindful of international competitiveness. If major trading partners do not assess environmental charges, Canadian businesses could be offside unless other policies are adopted to keep them competitive. In this regard, recent corporate tax reductions in Canada make it easier to shift taxes from investment to consumption, including taxes and fees related to the use of the environment.

(ii) Pierre Van Kleef

EXECUTIVE DIRECTOR Netherlands Foreign Investment Agency (NFIA) North America, Chicago

Pierre Van Kleef is the Executive Director for the Netherlands Foreign Investment Agency (NFIA) in North America. Located in Chicago, this non-governmental agency is part of the Dutch Ministry of Economic Affairs and operates as a facilitator for North American companies' direct investments in the Netherlands. It also assists companies with setting up, expanding and reconfiguring their pan-European operations in the Netherlands.

Mr. Van Kleef was a guest speaker at our workshop and presented a most interesting and helpful presentation: "The Netherlands: Gateway to Europe". He covered such topics as airport cargo hubs, inland water connections, transportation lead times, location factors, logistics labour costs, and affordability of international shipments. You may find his presentation on the Lawrence National Centre website at: www.lawrencecentre.ca.

(ii) Eric Kung

MBA 2008 Richard Ivey School of Business, The University of Western Ontario
NATIONAL STRATEGY AND PRIVATE PARTICIPATION IN TRANSPORTATION

I came to Canada in 1996 from Hong Kong. I was a Grade 12 student by then and the much anticipated new Highway 407 was about to open in the Thornhill region I was living in. One day in the library in my high school, I found a map of Toronto hidden at some corner, and the highway clearly marked on it. But it was not a Toronto map of 1996, it was a Toronto urban plan dated in the 1960s. Instantly, I was amazed how Canada took almost 40 years to build a 24-km three-lane expressway¹. That is not how things work in the country I came from. Over the years, I learned that this is how infrastructure is planned in this country. The high-speed rail on the Québec-Windsor corridor was one of the many infrastructure projects that have been discussed on and off over so many years, while Korea and Taiwan completed their nationwide high-speed rail network, China was investing US\$200 billion from now to 2010 to grow its railway network, and Spain was investing US\$100 billion to build 10,000 km of dedicated high-speed rail tracks. It took Spain just over 25 years to develop a formidable high-speed rail line running between Seville and Barcelona via Madrid by 2008. Canada is falling behind Spain by 25 years.

The Concept of "One-Day Living Zone"

Whether you are in a developed country or an emerging economy, or you are in an authoritarian society or a democratic state, you find that the general people want the same basic things: better jobs, more living space for their family, more time with their family, affordable prices for necessities and more opportunities for personal development. We summarize these in one term: better quality of life. This drives the exponential growth of cities and rapid urbanization worldwide.

¹ By then Highway 407 is only opened from Highway 427 to Highway 404

Population and businesses desert rural areas and smaller cities and concentrate more and more in larger cities like Toronto and Montréal. Suburbs are built further and further away from major cities to allow people to work in the cities and have ample living spaces at affordable prices at the same time. The results are more and more congestion on Highway 400, 401 and 404, more time spent on the road for everyone, increasing use and wastage of fuel and growth of unproductive greenhouse gas emission.

It seems that it never occurs to Canadians that transportation is not a stand-alone issue, but part of a national development strategy. Toronto and Ontario seem to have been looking backward and reacting to demand in transportation instead of looking forward and planning (and actually building) for the future. In the evaluation and discussion of high-speed rail on the Québec-Windsor corridor, people often look at the current demand of traffic in the corridor and evaluate it as just another stand-alone transportation project. Has it occurred to you that maybe high-speed rail is actually the key to all the problems of urbanization, commuting congestion, CO₂ emission and even the growing gaps between major metropolis and smaller cities? In Asia, there is a popular new concept called a "One-Day Living Zone" (see Figure 1).

People view distance not as the actual physical distance, but as a function of time and cost of travel over that distance. Many people commute about 90 minutes from suburban areas such as Barrie or Milton to Toronto. Do you think that people might consider commuting to Toronto from London (Ontario) or Peterborough if we could cut the travel time between these far-away cities to one hour? The One-Day Living Zone refers to all the places people can reside with comfortable and reliable means to commute to work within the Zone. Today, cities like Barrie and Milton barely lie within the Zone with Toronto at the centre. With high-speed rail, the zone can be greatly expanded outwards to include everything from London to Peterborough. Taiwan built their high-speed rail using this concept. The aim was to put the whole island into one zone in order to have 20 million people living as far as 400km apart. The goal was for commuters to physically travel back-and-forth and conduct their day-to-day business within one day. A high-speed rail line would allow outlying cities, along the rail line and within 250 km of Toronto, to become suburbs of Toronto. This eliminates the pressure of mounting population within major cities, removes the need to commute by private vehicles, increases the amount of land for people to expand their living space by several folds, and encourages smaller cities far away from major cities to grow. High-speed rail is not a transportation project, but a project of economic development, renaissance for outlying cities, increase of personal living quality and sustainable development of the economy. As a side note, this also removes passenger trains from the current tracks, leaving them dedicated to freight traffic. For example, after the construction of dedicated high-speed rail tracks between Seoul and Busan in Korea, the freight rail capacity between the cities grew from 820,000 tons to 3 million tons because of the release of freight rail tracks from passenger traffic. A final reason for Canada to build the Windsor-Québec high-speed rail line (as compared to Taiwan and Spain) is to show case Canadian technology from high-speed rail engines, rolling stock and software system controls. Why would a country pay billions of dollars to buy your technology if you do not use your own technological innovations?

Private Participation

The sheer cost of building the high-speed rail on the Windsor-Québec corridor is a major concern in many discussions evaluating the project. However, the possibility of private participation has often been discounted in Canadian infrastructure development. While most of the high-speed rail development across the world involves multi-billion public funding over a long period of time, this is not necessarily the case. With stable cash income for a long period of time, infrastructure investment is actually very attractive to many investors, especially pension funds. Taiwan's new high-speed rail line (THSR) offers insight on how private investors can heavily participate. THSR was developed with the Build-Operate-Transfer (BOT) model. The company was created as a publicly traded company owned by private investors entirely and it was responsible for the construction and operation of the high-speed rail line for 35 years, after which the property reverts to government control.

For the whole project, the government only provided about 20% of the funding (approximately C\$3 billion), the private investors invested about the same amount in the form of equity of THSR, and banks provide the rest in terms of loans. However, there are two key points where government helps to make this possible for private participation. These types of loans are considered high risk loans by lenders since companies like THSR will only have operating income 10 to 15 years after the loans are incurred. This nature of risk drives up the interest rates of the loans and the cost of capital for this type of investments. In the case of THSR, the government acts as the guarantor of the loans, thus minimizing the risk for banks and effectively reducing the cost of capital for the development from almost 12% to lower than 10%. Further, as THSR was developed as part of the national development strategy to attract people to take up residences and build their businesses in outlying cities far away from the business and population centre of Taipei, many plots of lands near the proposed stations of the high-speed rail lines in outlying cities are given to THSR for real estate development. Conceptually, the government lost future income that it can obtain from selling those plots of lands. However, factually, without the high-speed rail line, those plots of lands are worthless. Effectively, the government is using future income it would not have otherwise, to fund infrastructure projects without handing out actual cash, borrowing money and paying interest.

This strategy allows THSR to plan and develop the business and residential complexes at the same time with the high-speed rail as an integrated project, using the sale of the real estate to generate massive income to partially fund the construction of the high-speed rail, while the government fulfills the national strategy of achieving a much expanded One-Day Living Zone quickly.

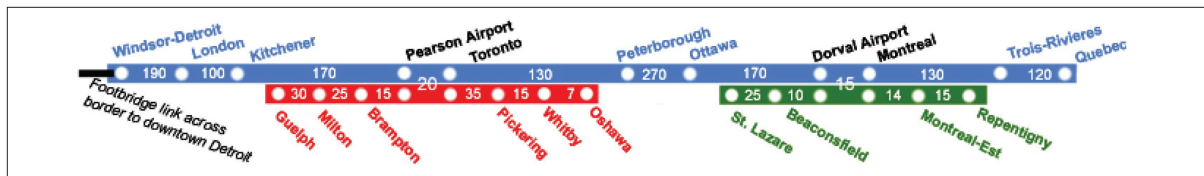
While the exact same strategy may not be optimal for Canada, this is certainly a formula that can stimulate a whole new way of thinking in how this can be achieved for the Québec-Windsor corridor.

Perhaps it is actually the time to consider the options for the Québec-Windsor corridor from a new and fresh perspective. It is the time to stop the chronic under-investment in the infrastructure and the band-aid solutions. It is the time to think hard and act, because this is the last chance to face the future and revitalize the Québec-Windsor corridor, because when you stop and discuss and discuss and discuss, the world does not stop and wait for you.

APPENDIX:

The dedicated high-speed rail line can serve multiple functions other than long range inter-city transport. The tracks can be shared with high-speed commuter trains serving communities closer to the major cities and high-speed airport rail links for Toronto and Montréal. It can also serve as a way to connect smaller cities with the world by connecting them directly with the airports in Toronto and Montréal within one hour of travel time.

The following map shows a possible route map of the Windsor-Montréal high-speed link and how it can share tracks with commuter rails. The numbers are the approximate distances in km between the stations. Inter-city high-speed trains run at about 230km/h to 250km/h on average between stations with top speed at 300km/h. Commuter trains run at about 110km/h to 150km/h on average between stations. The inter-city line (blue) can approximately run a train every 30 minutes and the commuter lines (red and green) can approximately run a train every 20 minutes during peak hours and every hour during off-peak hours.



This proposed line has 11 inter-city high-speed train stations serving cities with a total population of 8 million (within city proper of all the cities instead of the larger metropolitan area), 2 busiest international airports of Canada with over 40 million passengers in 2007 and two commuter train lines with 14 stations serving cities with a total population of 1 million along the GTA commuter line and 150,000 along the GMA commuter line. The line is about 1315km in length. With an average construction cost of C\$22 million per kilometer of high-speed rail in other countries that have developed high-speed rail, the cost will be approximately C\$30 billion.

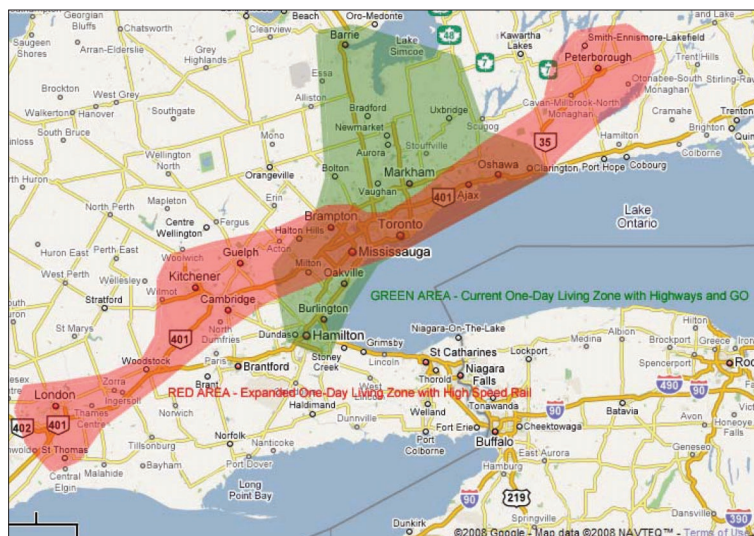


FIGURE 1 - ONE DAY LIVING ZONE

Jeff Fielding

CAO City of London

OPPORTUNITIES FOR THE CITY OF LONDON IN DEVELOPING THE ONTARIO-QUÉBEC CONTINENTAL GATEWAY AND TRADE CORRIDOR

The development of the Ontario-Québec Gateway and Trade Corridor represents a significant opportunity for municipalities in Southwestern Ontario to participate in the strengthening of this key trade and transportation artery. There are several opportunities for the City of London to consider:

- Border crossing improvements are critical to the continued viability of Southwestern Ontario manufacturers who rely on the cross-border shipment of materials and finished goods. Improvements include the needed infrastructure to accommodate increased volumes of traffic as well as the streamlining of regulatory requirements for customs and security purposes that are currently contributing to lengthy delays.
- London is located at the convergence of Highways 401 and 402 and CN and CP rail lines, has highway and rail connections to the north, east, south and west and is well served by an airport with rapidly expanding links to major cities across North America. It has the capacity to service large land assemblies in the Highway 401 and 402 corridors and a regional labour pool that can support substantial transportation related industrial growth. It has the right asset mix to position it as a major growth centre along the trade corridor. Federal and provincial government as well as private sector participation in the planning and funding of a major multi-modal logistics centre would be needed to make this happen.
- The creation of a Windsor to Québec City high-speed passenger rail corridor would be a significant step towards a sustainable growth strategy for Ontario. It would promote energy efficient cost-effective corridors and provide opportunities to re-locate freight rail lines from congested urban areas.
- The London Airport area is readily accessible from Highway 401 via Veterans Memorial Parkway. It includes substantial tracts of zoned, serviceable and available industrial land making it an ideal location for a multi-modal/trans-shipment facility. The City of London is collaborating with the London Airport Authority on the planning, servicing and development of this area with a focus on transportation-related uses.
- London is a hub for food processing and is a central point in the agricultural heartland of Southwestern Ontario. Effective road and rail linkages are in place to have London serve as a major trans-shipment point for agricultural products.
- London and Southwest Ontario is an emerging centre for the development of alternative energy technology and has major aircraft, locomotive and truck manufacturing industries. It would be an ideal candidate for the creation of a transportation technology centre that would focus on developing ways to reduce the energy usage associated with the transportation of goods.
- Growth management associated with the Greater Toronto Area is a matter of provincial concern that has given rise to the Greenbelt and Places to Grow legislation. Provincial strategies should focus not only on ways of accommodating growth within the GTA, but also on ways to support the de-centralization of growth to areas like London that have a greater capacity to sustain it, thus relieving the GTA of congestion.

Greig Mordue

Toyota Motor Manufacturing Canada

A capable, efficient, flexible, intermodal freight transportation system is directly related to the health and growth of a national economy. By extension, therefore, the capacity of a nation to attract, build and sustain a stable economic foundation is in large measure, influenced by the relative condition of the local, national and even international transportation infrastructure in which its industries are embedded. This is particularly relevant in so far as the Canadian manufacturing sector in general... and its automotive industry more specifically... is concerned. However, it should also be recognized that additional issues exist regarding transportation infrastructure and although these issues are of an intangible nature, they too are of significance. It will be these more subtle elements that the paragraphs that follow will start to describe.

Presently, there is cause to be pessimistic about the long-term viability of the Canadian automotive industry. Therefore, some may find it convenient to dismiss the concerns and requests the industry may hold with respect to issues of public policy. By explanation, the global automotive industry has, by and large, evolved based on a series of regional models. This has meant that Asian, European and North American-based participants have designed, manufactured and marketed their products on a regional basis. Canadian automotive manufacturing operations have evolved... and their success has hinged... on a model that has been restricted to a North American base. Further, as a peripheral location and market within

the larger North American milieu, Canada's automotive industry has been defined as a low cost, labour-intensive alternative within the larger North American regional context.

This low cost, regionalized model and niche... one that has served Canada quite well since the advent of the Auto Pact in 1965... appears to be becoming unhinged. The potential (yet to be fully proven, mind you) of a truly globalized industry may eventually undermine North American automotive manufacturing. This has major implications for Canada. Moreover, an ascendant Canadian dollar along with new labour-management agreements in the US have almost overnight shifted Canada from one of the most cost competitive locations in the world to build vehicles to one of the most expensive. Today, for example, it is more expensive to build vehicles in Canada than it is to build them in Japan and ship them to Canada.

Efforts are underway... perhaps naively... to inspire and commercialize automotive innovation. For example, the recent federal budget set aside \$250 million over five years to "support strategic, large-scale research and development projects in the automotive sector to develop innovative, greener and more fuel-efficient vehicles." The Province of Ontario has a similar program espousing parallel goals. While laudable and necessary, these can only be considered tentative, early steps because their aim is to not simply buttress the industry as it currently exists, but indeed to recast its very composition and structure. The challenge of doing so is compounded by the fact that the Canadian automotive industry is comprised primarily of subsidiaries: companies that originally established Canadian operations to either take advantage of access to the US market, to service the labour intensive final assembly operations concentrated disproportionately in Canada or to gain access to lower order factor inputs. Rarely, have Canadian automotive subsidiaries sought the higher order R&D-oriented opportunities cluster devotees espouse, nor have they been mandated to do so. Therefore, with few indigenous players... the most logical targets of R&D investment... the process of transforming the Canadian automotive industry will be arduous indeed.

So, while it may be apparent that the profile of the Canadian automotive industry over the longer term will be different than the present, it is not yet clear how that transition will occur. However, despite the uncertainty, it is worth mentioning that over its history, the Canadian auto industry has confronted many similar distractions (the entry of UK based manufacturers in the 1950s, the emergence of the Auto Pact in the 1960s, Japanese entrants in the 1970 and 1980s and Korean manufacturers in the 1990s). Each time, the Canadian industry was perceived to be in crisis and each time it emerged as stronger, more effective... and different... than it had in the past.

The one constant throughout these evolutionary phases has been the primacy of manufacturing. And to secure manufacturing mandates, it is necessary to understand that, as a small, peripheral market, it is not sufficient for Canadian investment options to be seen merely "as good as" US alternatives, but in fact, they must be markedly better. Thus, it is incumbent that methods to mitigate any perceived shortcomings be undertaken. In that regard, many measures that may be taken are outside the scope of the public sector to influence or control.

Notwithstanding the challenges and the public sector's relatively limited scope, public transportation infrastructure can be a significant point of leverage. However, the way this has been playing out might not be consistent with conventional wisdom. By way of background, it must be understood that US-based actors competing with Canadians for investment have the significant benefit that the majority of the supply base and the preponderance of the market is in the US. Further, it must also be recognized that investment decision making is not done purely on the basis of rational choice: that perceptions, bias and personalities play a significant role. A US decision, therefore, is the politically safe option. Thus, US competitors, quite understandably, utilize the mere existence of the border as a point of leverage in the investment decision process.

The reality is that since 2001, the bottleneck and the risk that the border represents has become much more prevalent in the decision making process; a situation that persists even though delays may not be appreciably worse today than they were pre-September 11, 2001. Dangerously for Canada and ironically for the US, the border has become an advantage for US-based economic development officials as well as for US locations engaged in intra-corporate investment competition with Canadians. Therefore, even though some measures have been successfully undertaken to improve border traffic flow, those tangible measures have not provided sufficient counterweight to the perceptions that have lingered and grown.

Clearly, then, continued improvement to border traffic flow is a priority: diminishing damaging perceptions through genuine, quantifiable progress. And while automotive companies will continue to support incremental improvements to the overall process, significant, consequential progress will not be recognized until new border crossing capacity is added at the key automotive crossing point: Windsor.

Kathryn Bryk Friedman, Ph.D., Esq.**DEPUTY DIRECTOR** University at Buffalo Regional Institute, Buffalo, New York**ONTARIO-QUÉBEC TRANSPORTATION SUMMIT**

Transportation and related infrastructure capacities undoubtedly are two important attributes to maintaining economic competitiveness in the twenty-first century. Although this summit highlights strengthened east-west connections between Ontario and Québec, policymakers also should consider enhanced road, rail and infrastructure linkages among Ontario, Québec and New York State as critical to provincial competitiveness.

If asked to describe the most pressing economic challenges confronting Canada and the United States today, policymakers likely would use terms such as integration and globalization - twin forces that have resulted in profound changes in the way that these two countries do business with one another and the world. These forces have not taken shape haphazardly. Rather, they possess an inherent "North American logic" that is playing out on continental highways and railways, further binding Canada and the United States (and, by extension, respective provinces and states) together on a north-south axis. Viewing competitiveness through a North American lens, then, it is apparent that the competitiveness of Ontario and Québec is directly linked to that of the United States broadly and New York State specifically - with strong north-south infrastructure and efficient transportation connections serving as lynchpins.

Binational conversations at the provincial-state level could enhance these linkages and open opportunities for expanded trade, investment and economic prosperity. The foundation for dialogue is already present. Canada is New York State's primary export market, with \$30.2 billion worth of merchandise and goods exchanged during 2004. Almost 23% of New York's worldwide exports were sold to Canada last year. Over all, the U.S. accounts for about 75% of Ontario's total trade. The U.S. also accounts for 65% of foreign capital investment in Ontario. Broken down to the state-provincial level, Ontario exports more to New York than it does to any of its international markets beyond the United States. New York accounts for almost six percent of Ontario's total exports, making it the third-largest destination for exports within the U.S. New York State is Québec's number one trading partner in the United States. In 2004, trade between Québec and New York State totaled CDN \$10.6 billion, the most of any American state. New York State is also the main purchaser of Québec products in the U.S. and imported CDN \$8.3 billion worth of Québec goods in 2004, or 12.2% of all Québec exports, a 6.9% increase over 2003. Québec imports from New York State totaled CDN \$2.2 billion, or 3.3% of all Canadian imports that cleared customs in Québec, a 10.3% increase over 2003.

In order to leverage these connections and the opportunities they present, policymakers in Ontario, Québec and New York State require a new framework for re-thinking about security, transportation and competitiveness issues that impact them collectively. They require standardized data to properly frame issues, as well as neutral binational forums for bringing them together. In the end, to reach new levels of competitiveness, provincial and state policymakers need policy tools equipped with a North American lens.

WORKSHOP PARTICIPANTS

BUSINESS

- Allard, Eric C. **VICE PRESIDENT** International Air Freight, Schenker of Canada Ltd.
- Alvarado, Sarah **AVP** Canadian Private Placements, Manulife Financial
- Baker, Harvey **TRANSPORTATION MANAGER** Labatt
- Baker, Steve **PRESIDENT** London International Airport Authority
- Bickley, Richard **DIRECTOR** Transportation, Rio Tinto Alcan
- Byers, Rick **EXECUTIVE VICE PRESIDENT** Borealis Infrastructure
- Ferrari, Anthony **PRESIDENT** Bridgepoint Group Ltd., Lawrence National Centre Advisory Council
- Gerrior, Brian **NATIONAL MANAGER** Transportation and Customs, Sears Canada
- Healy, Mark **PARTNER** Torque Customer Strategy
- Johnson, Robert **PRESIDENT AND CEO** Purolator Courier
- La Barbera, Mario **PRESIDENT** Pival International
- Lessard, Jean-Robert **VP MARKETING & PUBLIC RELATIONS** Robert Transport
- Mondor, Catherine **DIRECTOR OF LOGISTICS** Bombardier Transport, Montréal
- Murphy, Tim **PARTNER** McMillan Binch Mendelsohn
- Rafi, Saad **PARTNER** Deloitte & Touche
- Roman, Samantha **GRADUATE LEADERSHIP PROGRAM ASSOCIATE** RBC Royal Bank
- Sagaskie, Tom **GENERAL MANAGER** Guelph Junction Railway
- Shannahan, Tara **FINANCIAL ANALYST** Food Services, Maple Leaf Foods
- Slemko, Gerald **PRESIDENT AND CEO** Cuddy Farms Corporation
- Speers, Douglas E. **CHAIRMAN** Emco Limited, Ivey Advisory Board Member
- Vander Laan, Hank **FOUNDER AND SENIOR ADVISOR** Trojan Technologies
- Van Berkel, Bas **PRESIDENT** Storm Fisher Biogas
- Van Pelt, Michael **PRESIDENT** Work Research Foundation
- Warner, Tod H. **MANAGING PARTNER** ZTR Control Systems
- Woods, Perry **MANAGER OF INTERNATIONAL TRADE AND TRANSPORTATION SERVICES** Supply Chain Management, General Dynamics Land Systems Canada

ACADEMIA

- Adams, Joel **EXECUTIVE DIRECTOR** The Research Park, London - Sarnia - Lambton
- Andrey, Jean **ASSOCIATE PROFESSOR** Geography Department, University of Waterloo
- Ariss, Alison **CONSULTANT** Research Development, The University of Western Ontario
- Bansal, Tima **ASSOCIATE PROFESSOR** Richard Ivey School of Business, The University of Western Ontario
- Beamish, Paul **PROFESSOR** Richard Ivey School of Business, The University of Western Ontario
- Comtois, Claude **PROFESSOR** Department of Geography, University of Montréal
- Conklin, David **PROFESSOR** Richard Ivey School of Business, The University of Western Ontario
- Crainic, Teodor Gabriel **PROFESSOR** Université du Québec à Montréal and CIRRELT - Laboratory on Intelligent Systems
- Cunningham, Dianne **DIRECTOR** Lawrence National Centre for Policy and Management, Richard Ivey School of Business
- Davenport, Paul **PRESIDENT AND VICE CHANCELLOR** The University of Western Ontario

- Dunbar, Craig **ASSOCIATE DEAN - FACULTY DEVELOPMENT AND RESEARCH** Richard Ivey School of Business, The University of Western Ontario
- Ecclestone, James **RESEARCH CONSULTANT**
- Esselment, Rob **DIRECTOR** Government Relations and Operations, The University of Western Ontario
- Friedman, Kathryn Bryk, Ph.D., Esq. **DEPUTY DIRECTOR** University at Buffalo Regional Institute, Buffalo, New York
- Holburn, Guy **ASSOCIATE PROFESSOR** Richard Ivey School of Business, The University of Western Ontario
- Johnson, Gillian **RESEARCH ASSISTANT** Lawrence National Centre for Policy and Management, Richard Ivey School of Business
- Kesselman, George **MBA 2008** Richard Ivey School of Business, The University of Western Ontario
- Kung, Eric **MBA 2008** Richard Ivey School of Business, The University of Western Ontario
- Leblond, Patrick **ASSISTANT PROFESSOR** Department of International Business, HEC Montréal
- McBean, Gordon **PROFESSOR** Institute for Catastrophic Loss Reduction, The University of Western Ontario
- Mintz, Jack **PALMER CHAIR IN PUBLIC POLICY** School of Policy Studies, University of Calgary
- Pare, Maura **DIRECTOR** Public Affairs, Richard Ivey School of Business, The University of Western Ontario
- Piper, Chris **PROFESSOR** Richard Ivey School of Business, The University of Western Ontario
- Roy, Jacques **PROFESSOR** Logistics and Operations Management, HEC Montréal
- Schaan, Jean-Louis **PROFESSOR** Richard Ivey School of Business, The University of Western Ontario
- Stephenson, Carol **DEAN** Richard Ivey School of Business, The University of Western Ontario
- Weil, Mary **MANAGER** Media and Public Relations, Richard Ivey School of Business
- Wolff, Katharina **PROJECT MANAGER** Lawrence National Centre for Policy and Management, Richard Ivey School of Business
- Wynant, Larry **ASSOCIATE DEAN - PROGRAMS** Richard Ivey School of Business, The University of Western Ontario

AGENCY

- Blank, Stephen **CO-CHAIR** North American Transportation Competitiveness Research Council, New York
- Fenn, Michael **CEO** Metrolinx, Toronto
- Fox, Jennifer **ASSISTANT MANAGER OF OPERATIONS** Ontario Trucking Alliance
- Livingston, David **PRESIDENT AND CEO** Infrastructure Ontario
- Murray, Glen **PRESIDENT AND CEO** Canadian Urban Institute
- Stewart, Gordon **VICE PRESIDENT** Independent Contractors and Businesses Association, B.C.
- Sutherland, Mike **SENIOR ADVISOR** Metrolinx, Toronto
- Switzer, Doug **VICE PRESIDENT** Government Relations, Ontario Trucking Association
- Van Kleef, Pierre **EXECUTIVE DIRECTOR** Netherlands Foreign Investment Agency (NFIA), North America, Chicago
- White, Peter **PRESIDENT** London Economic Development Commission

GOVERNMENT

- Barrett, Gregg **MANAGER** Land Use Planning, Policy Planning and Development, City of London
- Beaudoin, Pierre **PLANNING ADVISOR** Ministry of Transportation, Québec
- Bentley, Hon. Chris **ATTORNEY GENERAL** Member of Provincial Parliament, London West
- Borges, Helena **DIRECTOR GENERAL** Surface Transportation Policy Directorate, Transport Canada

WORKSHOP PARTICIPANTS

...continued

PARTICIPANTS

Burr, Kristine **ASSISTANT DEPUTY MINISTER** Policy Group - Transport Canada
Casey, Michael **TEAM LEADER - CONTINENTAL GATEWAY OFFICE** Ministry of Transportation, Ontario
Cragg, Eric **POLICY ANALYST** Freight Integration and Motor Carrier Policy, Transport Canada
Couture, Jean **ASSISTANT DEPUTY MINISTER** Policy and Security, Ministry of Transportation, Québec
Del Bianco, Francesco **DIRECTOR** Industry Canada
Dick, Phil **INVESTMENT DEVELOPMENT OFFICER** OMAFRA
Fournier, Bertrand **DIRECTOR OF PLANNING** Ministry of Transportation, Québec
Gosselin, Patrick **SENIOR POLICY ADVISOR** Transport Canada
Henry, Dave **PLANNING ADVISOR** Ministry of Transportation, Québec
Hume, Gord **CONTROLLER** City of London
Jean, Denys **DEPUTY MINISTER** Ministry of Transportation, Québec
Leckie, David **DIRECTOR OF ROADS AND TRANSPORTATION** City of London
Lévesque, Évangéline **HEAD OF OFFICE** Master Plan and Economy, Ministry of Transportation, Québec
Loranger, Jean-Guy **PLANNING ADVISOR** Ministry of Transportation, Québec
Mathysen, Irene **MEMBER OF PARLIAMENT** London Fanshawe
McAusland, Linda **DIRECTOR** Transportation Policy Branch, Ministry of Transportation, Ontario
McCuaig, Bruce **DEPUTY MINISTER** Ontario Ministry of Transportation
Merissa, Rahel **ECONOMIC OFFICER** Freight Integration and Motor Carrier Policy, Transport Canada
O'Toole, David **ASSISTANT DEPUTY MINISTER** Policy and Planning Division, Ministry of Transportation, Ontario
Panzer, Robin **GENERAL MANAGER OF PLANNING AND DEVELOPMENT** City of London
Parent, Brigitte **POLICY ADVISOR** Freight Integration and Motor Carrier Policy, Transport Canada
Perttula, James **MANAGER** Continental Gateway Office, Ministry of Transportation, Ontario
Raffa, Rachid **PLANNING ADVISOR** Ministry of Transportation, Québec
Ramoutar, Norman **ASSISTANT POLICY ANALYST** Continental Gateway Office, Ministry of Transportation, Ontario
Ranger, Louis **DEPUTY MINISTER** Transport, Infrastructure and Communities, Transport Canada
Richer, Philippe **ASSISTANT DEPUTY DIRECTOR** Service Industries and Consumer Branch, Industry Canada
Rochon, Jacques **EXECUTIVE DIRECTOR** Freight Integration and Motor Carrier Policy, Transport Canada
Rodrigue, Pierre **LOGISTICS DEVELOPMENT ADVISOR** Ministry of Economic Development, Innovation and Exportation, Québec
Seguin, Bob **ASSISTANT DEPUTY MINISTER** Ministry of Economic Development and Trade, Industry Division, Ontario
Sirois, Claude **PLANNING ADVISOR** Ministry of Transportation, Québec
Tansley, Jill **Municipal Policy Specialist** CAO's Department, City of London
Tremblay, Pierre **HEAD OF OFFICE** Transportation System Model, Ministry of Transportation, Québec
Tremblay, Christyne **ASSISTANT DEPUTY MINISTER** Ministry of Economic Development, Innovation and Exportation, Québec
Ward, David **DIRECTOR** Strategic Policy and Transportation, Economics Branch, Ministry of Transportation, Ontario
Zavergiu, Richard **ECONOMIST** Strategic Policy Branch, Transport Canada

This Transportation Workshop could not have been possible without the many people who shared their time to make the workshop a success. We extend our thanks to those who were instrumental to the task of organizing the workshop and in assisting in the writing of this report. It was a privilege to be involved with so many participants who took the time away from their businesses and busy personal lives to assist in guiding future policy development in Canada. In particular, we would like to thank Carol Stephenson, Dean of the Richard Ivey School of Business, who provided ongoing advice and encouragement. We also extend our thanks to Paul Davenport, President and Vice-Chancellor of the University of Western Ontario, and Ted Hewitt, Vice-President (Research and International Relations), University of Western Ontario, for their ongoing support.

We are particularly appreciative of our Steering Committee members for the ongoing commitment over many weeks of telephone conference deliberations. As professional and competent public servants, they worked together with expert advice and encouragement to assist in strategic decisions in the selection of program topics, panelists and participants. They share many years of transport policy expertise in government. Thank you to Anthony Ferrari, our business advisor, for lending his support from the very beginning.

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Participants enjoyed a powerful message by Jack Mintz at the opening reception, as included in this report. Mr. Pierre van Kleef, Executive Director, Netherlands Foreign Investment Agency provided an insightful presentation on the Netherlands: Gateway to Europe. His presentation can be found on our website: www.lawrencecentre.ca.

Students from Ivey as well as other Western programs contributed significantly in assisting in the research, during the workshop, and in transcribing presentations and discussions. We are especially proud of Eric Kung, MBA'2008, for his most interesting and bold "high-speed rail" presentation.

To the City of London who continues to support Ivey in so many ways, we extend our appreciation. We especially thank Controller Gord Hume for his warm greetings at our opening reception and to Jeff Fielding, CAO, for his participatory statement and ongoing generous advice.

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Thank you to everyone who believes that by working together we will advance a national agenda and contribute to the formulation and implementation of sound public policy.

Richard Ivey School of Business
The University of Western Ontario

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CROSS-ENTERPRISE LEADERS

Lawrence National Centre for Policy and Management

PHONE: 519.661.4253

<http://www.ivey.uwo.ca/lawrencecentre/>